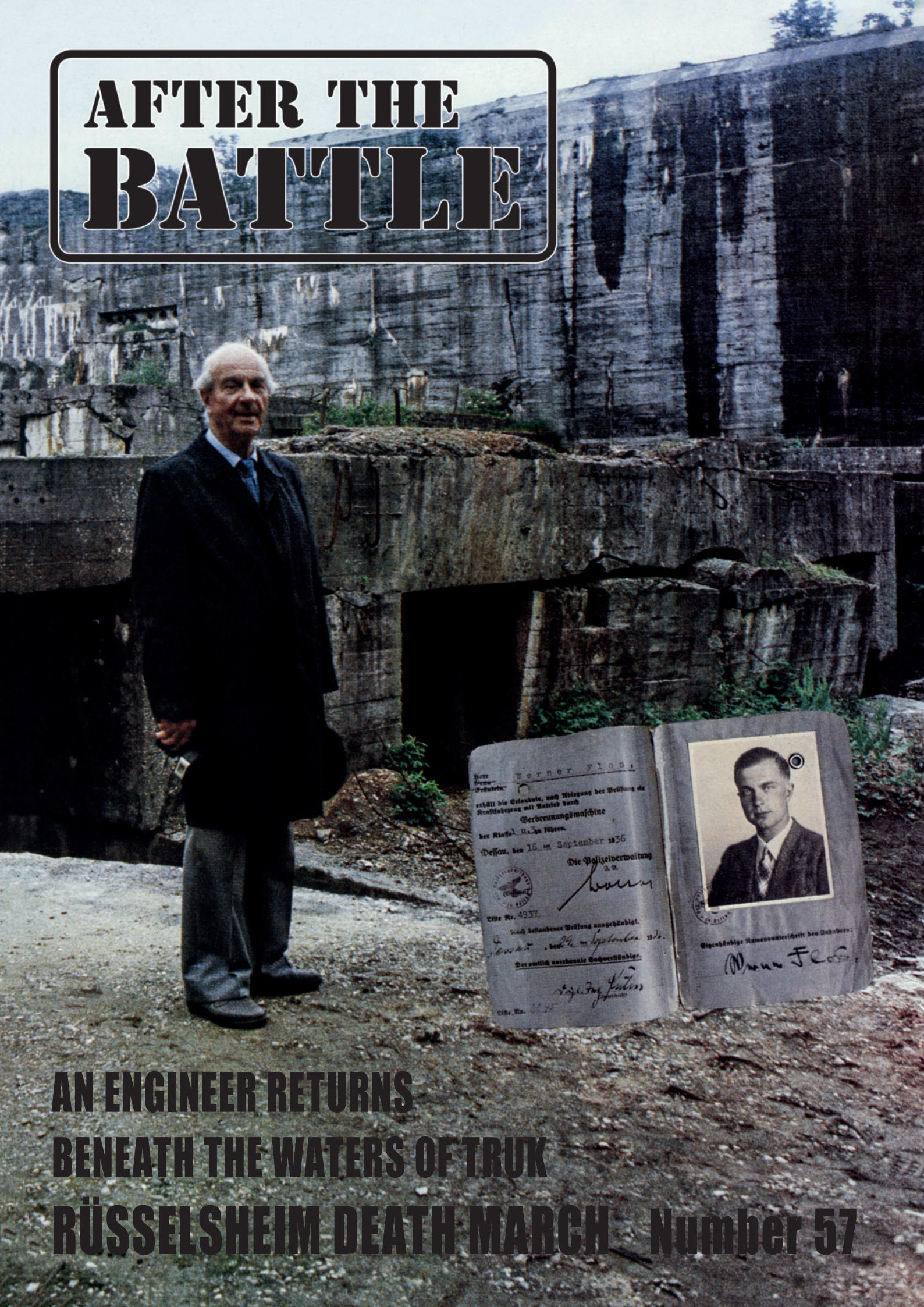
AFTER THE BATTLE



AN ENGINEER RETURNS BENEATH THE WATERS OF TRUK

RÜSSELSHEIM DEATH MARCH Number 57

AFTER THE BATTLE

NUMBER 57

Edited by Winston G. Ramsey

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Front Cover: Werner Flos, the Chief Engineer of the Organisation Todt in Berlin, whose projects ranged from the big gun sites in the Pas-de-Calais to the U-Boat pens on the coast of France, revisits the V2 bunker at Watten for the first time since the war. In June 1987 he recalled sheltering in the building several times from air raids, the half-completed structure being successfully destroyed by American bombers in August 1943.

Centre Pages: Beneath the waters of Truk lagoon in the Caroline Islands in the Pacific, the bridge of the *Nippo Maru* with its mouldering engine telegraph is pictured by Klaus Lindemann at a depth of 130 feet.

Back Cover: The evening shadows lengthen on the serried ranks of graves at the US military cemetery at St Avold in eastern France. Here lie three of the airmen killed in the notorious Rüsselsheim Death March — Tom Williams was the radio operator on the last flight of *Wham! Bam! Thank You, Ma'm* on August 24, 1944.

Acknowledgements: Pictures included in *Antwerp City of Sudden Death* by courtesy of Navorsings en Studiecentrum voor de Geschiedenis van de Tweede Wereldoorlog in Brussels and *The Mass Escape From Cowra* from *Die Like the Carp* by Harry Gordon published by Cassell Australia Ltd.

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EXTRACT

MISSING AIR CREW REPORT #J-140

1. ORGANIZATION: Location NORTH PICKENHAM ; Command or Air Force 18th Air Force
Group 491 ; Squadron 854 ; Detachment
2. SPECIFY: Point of Departure N.PICKENHAM ; Course
Intended Destination HANNOVER ; Type of Mission Aerial Combat
3. WEATHER CONDITIONS AND VISIBILITY AT TIME OF CRASH OR WHEN LAST REPORTED: CAVU
4. GIVE: (a) Day 24; Month Aug ; Year 44 ; Time 1140 ; and Location 15 Miles North of HANNOVER of last known whereabouts of missing aircraft.
(b) Specify whether ( ) Last Sighted; (X) Last contacted by Radio; ( ) Forced Down; ( ) Seen to Crash; or ( ) Information not Available.
5. AIRCRAFT WAS LOST, OR IS BELIEVED TO HAVE BEEN LOST, AS A RESULT OF: (Check only one) ( ) Enemy Aircraft; ( ) Enemy Anti-Aircraft; (X) Other Circumstances as follows
6. AIRCRAFT: Type, Model and Series B-24 J ; A.A.F. Serial Number 42-110107 Z-
Aircraft Nickname WHAM BAM "Reclining Rabbit--Thank You Ma'm"
7. ENGINES: Type, Model and Series R-1830-65 A ; A.A.F. Serial Number (a) BP-446021
(b) BP-426709 ; (c) BP-436439 ; (d) BP-436560
8. INSTALLED WEAPONS (Furnish below Make, Type and Serial Number)
(a) 722571 ; (b) 949972 ; (c) 117901 ; (d) 950652
(e) 949826 ; (f) 950284 ; (g) 722651 ; (h) 958726
9. THE PERSONS LISTED BELOW WERE REPORTED AS: (a) Battle Casualty Yes
or (b) Non-Battle Casualty
10. NUMBER OF PERSONS ABOARD AIRCRAFT: Crew 9 ; Passengers 0 ; Total 9
(Starting with pilot, furnish the following particulars: If more than 10 persons were aboard aircraft, list similar particulars on separate sheet and attach original to this form).

	Crew Position	Name in Full (Last Name First)	Rank	Serial Number	Present Status
1.	Pilot	ROGERS, Norman J. Jr,	2nd Lt	O-820907	MIA
2.	Co-Pilot	SEKUL, John N.	2nd Lt	O-824262	MIA
3.	Navigator	TUFENKJIAN, Halgus	F/O	T-126660	MIA
4.	Engineer	BRININSTOOL, Forrest W.	S/Sgt	36459119	MIA
5.	R/Operator	WILLIAMS, Thomas D., Jr.	S/Sgt	13100227	MIA
6.	Ball Gun	DUMONT, William A.	Sgt	31267637	MIA
7.	L/W Gun	AUSTIN, Elmore L.	Sgt	31340848	MIA
8.	Tail Gun	BROWN, Sidney B.	Sgt	34792548	MIA RMC
9.	Nose Gun	ADAMS, William M.	Sgt	33833051	MIA RMC
10.					

11. ~~XXXXXXXX~~ IDENTIFY BELOW THOSE PERSONS WHO ARE BELIEVED TO HAVE LAST KNOWLEDGE OF AIRCRAFT, AND CHECK APPROPRIATE COLUMN TO INDICATE BASIS FOR SAME

1. BURDEKIN, Harold W.	1st Lt.	O-792215	Last Sighted	
2. HUNT, Douglas O.	1st Lt.	O-811086	Last Sighted	
3. SUNDERS, Edward W.	1st Lt	O-1283867	Last Sighted	

13. IF PERSONNEL, ARE BELIEVED TO HAVE SURVIVED, ANSWER YES TO ONE OF THE FOLLOWING STATEMENTS: (a) Parachutes were used ; (b) Persons were seen walking away from scene of crash ; or (c) Any other reason (Specify) Unknown
14. ATTACH AERIAL PHOTOGRAPH, MAP, CHART, OR SKETCH, SHOWING APPROXIMATE LOCATION WHERE AIRCRAFT WAS LAST SEEN OR HEARD FROM See attached sheet
15. ATTACH EYEWITNESS DESCRIPTION OF CRASH, FORCES LANDING, OR OTHER CIRCUMSTANCES PERTAINING TO MISSING AIRCRAFT. See paragraph 17.
16. GIVE NAME, RANK AND SERIAL NUMBER OF OFFICER IN CHARGE OF SEARCH, IF ANY, INCLUDING DESCRIPTION AND EXTENT None

Date of Report 25 August 1944

s/ Herbert B. Bronner
HERBERT B. BRONNER
Captain, A.C.
Intelligence Officer.

17. REMARKS OR EYEWITNESS STATEMENTS:

STATEMENT OF: Lst Lt. HAROLD W. BURDEKIN, O-792215, A/C 123 W- taken at Interrogation:

"About 1140 hours, just about fifteen miles North of HANNOVER, Lt Rogers, A/C 107 Z- called for fighter protection-- going down smoking with number 2 engine feathered--but seemed to be under control"

STATEMENT OF: 1st Lt. DOUGLAS O. HUNT, O-811086, A/C 249 O-, taken at Interrogation:

"Fifteen miles North of HANNOVER saw Lt. Rogers, A/C 107 Z-, with number 2 engine feathered and what appeared to be gas or oil coming from number 1 engine--flying about 3,000 feet below formation".

STATEMENT OF: 1st Lt. EDWARD W. SUNDERS, O-1282869, A/C 242 L- taken at Interrogation:

"Lt Rogers left formation after target (HANNOVER) with number 2 engine burning--looked like an oil fire. He was flying below our formation, apparently having a difficult time keeping with the formation".

Missing Air Crew Reports were prepared on all USAAF aircraft which failed to return from operations, the obligation being that of the relevant Group to file the details within two days. Thus on August 25, 1944 Captain Bronner of the 491st Bombardment Group completed this report on a routine loss over Germany the previous day. (Note Item 12 does not exist on the original.)

THE RÜSSELSHEIM DEATH MARCH

On August 24, 1944, Eighth Air Force Bomber Command launched over thirteen hundred sorties to various targets in Germany from its bases in Eastern England. Primary targets were the oil and aircraft industries and an armaments factory, the 854th Bomb Squadron, part of the 491st Bomb Group stationed at North Pickenham, Norfolk, sending its B–24s to Hannover. Just before midday *Wham! Bam! Thank You, Ma'm*, captained by 2nd Lieutenant Norman J. Rogers, successfully attacked the airfield north of the city which was their target when the aircraft was hit by flak and began to drop out of formation.

Some ninety miles south-west of Hannover, near Greven, the No. 2 Platoon of the local Landwachtbereitschaft (Home Guard) were on duty at their post on Hause Höwer. The air raid warning had already sounded and the men were all prepared for action.

'Towards 12.03', reported the SA-Truppführer, 'we observed a four-engined bomber approaching from an easterly direction, which circled low over the parishes of Wentrup and Hüttrup; height about 700 to 800 metres. It seemed, in fact, as if two engines were no longer running and gave the impression that the plane was looking for a landing place. But there was also the possibility in our minds that the plane was attempting an attack on the canal and the canal road bridge in Ladbergen. We therefore opened fire when the distance was calculated to be about 2,000–2,500 metres. I allowed the plane to fly through three times from the edge of the firing sights to the centre, and each time fired a volley of about ten rounds. Immediately afterwards, towards 12.15, the

Top: **Undated picture of *Wham! Bam! Thank you, Ma'm* on its hardstanding in the 854th Bomb Squadron dispersal area at North Pickenham. (Ted Parker)** *Above:* **It was from this general area that the B–24 set out on its last mission. The old airfield is now the location of a turkey breeding farm after a brief burst of activity as a Thor ballistic missile base in the late 1950s.**

Pilot of the aircraft was 2nd Lieutenant Norman J. Rogers, seen here (back row on the left) with his crew at Langley Field in the States in June 1944. Next to him stand fellow officers, 2nd Lieutenants John N. Sekul, Bernard J. Cassidy and Yancy Robinson. Front row L-R: Sergeants William M. Adams, Elmore J. Austin (not 'L' as in the Missing Report), Thomas D. Williams, William A. Dumont, Sidney E. Brown and Forrest W. Brininstool. Lieutenant Cassidy and Lieutenant Robinson had been sent on a course for some advanced training and so missed the Hannover mission, their places being taken by Flight Officer Haigus Tufenkjian as navigator/bombardier. (Mrs R. Dietrich)

plane crashed in the direction of Hüttrup and hit the ground under clouds of smoke.'

The aircraft having been crippled from several bursts including a direct hit in the bomb bay, Lieutenant Rogers gave the order to bale out. First to jump was Sergeant William A. Dumont, the ball turret gunner, who landed heavily injuring his ankle. Next out was Sergeant Thomas D. Williams, the radio operator, followed by Sergeant William M. Adams, the nose gunner, who had been wounded in the arm, the tail gunner, Sergeant Sidney E. Brown, and Flight Officer Haigus Tufenkjian, the navigator. The waist gunner, Sergeant Elmore J. Austin, jumped next, followed by the engineer, Staff Sergeant Forrest W. Brininstool, who had received a flak wound to his stomach. Last out were the co-pilot, 2nd Lieutenant John N. Sekul, and Lieutenant Rogers.

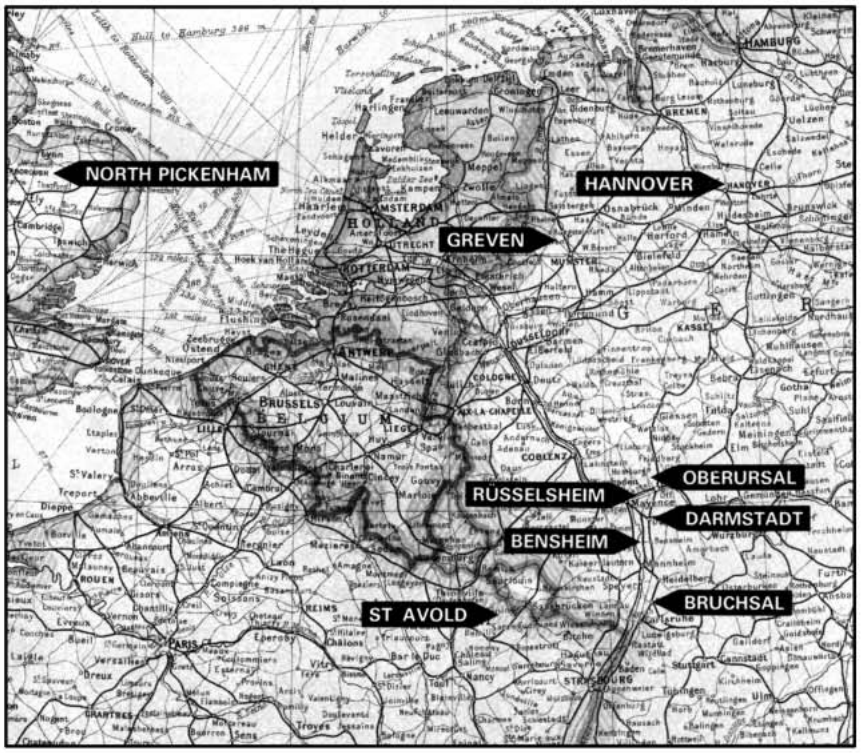
The B–24, number 42-110107, crashed not far from the airfield beside the Beckersjürgen farm, scattering wreckage across the field and road, the engines finishing up in the farmyard itself. At 12.20 p.m. the local fire brigade was alerted by the look-out on duty at Höwer House who reported that an aircraft had come down in the area, and ten minutes later one fire engine left Hüttrup for the crash. At the same time a detachment was sent from Feld L.M. Lager 2/6 by Oberfeldwebel Spintler to cordon off the wreckage. As there was no danger from fire to the farm buildings, the fire engine was ordered to return on the arrival of an NCO and OR from bomb disposal to begin their examination for live ordnance.

As parachutes had been observed, search parties were despatched and by the end of the afternoon all the crew had been rounded up and taken to the old town hall in Greven. Typical of the arrests was that later described by the nose gunner, Sergeant Adams: 'I landed in the back yard of a farmhouse. A German farmer, who was about fifty years of age, 5ft 9in in height, 150–160 pounds, dark complexioned, and who wore no glasses, fed me and bandaged my right arm, which was wounded by flak. A short time later, a man about seventy years old, whom I presumed to be the father of the farmer who cared for me, came into the house and objected to my being there. This man apparently wanted me taken directly to the authorities. My captor then took me to the village about a mile away, and compelled me to walk aside him until we were nearly in the village. At this time, he compelled me to walk ahead of him as he followed with his bicycle and firearm.

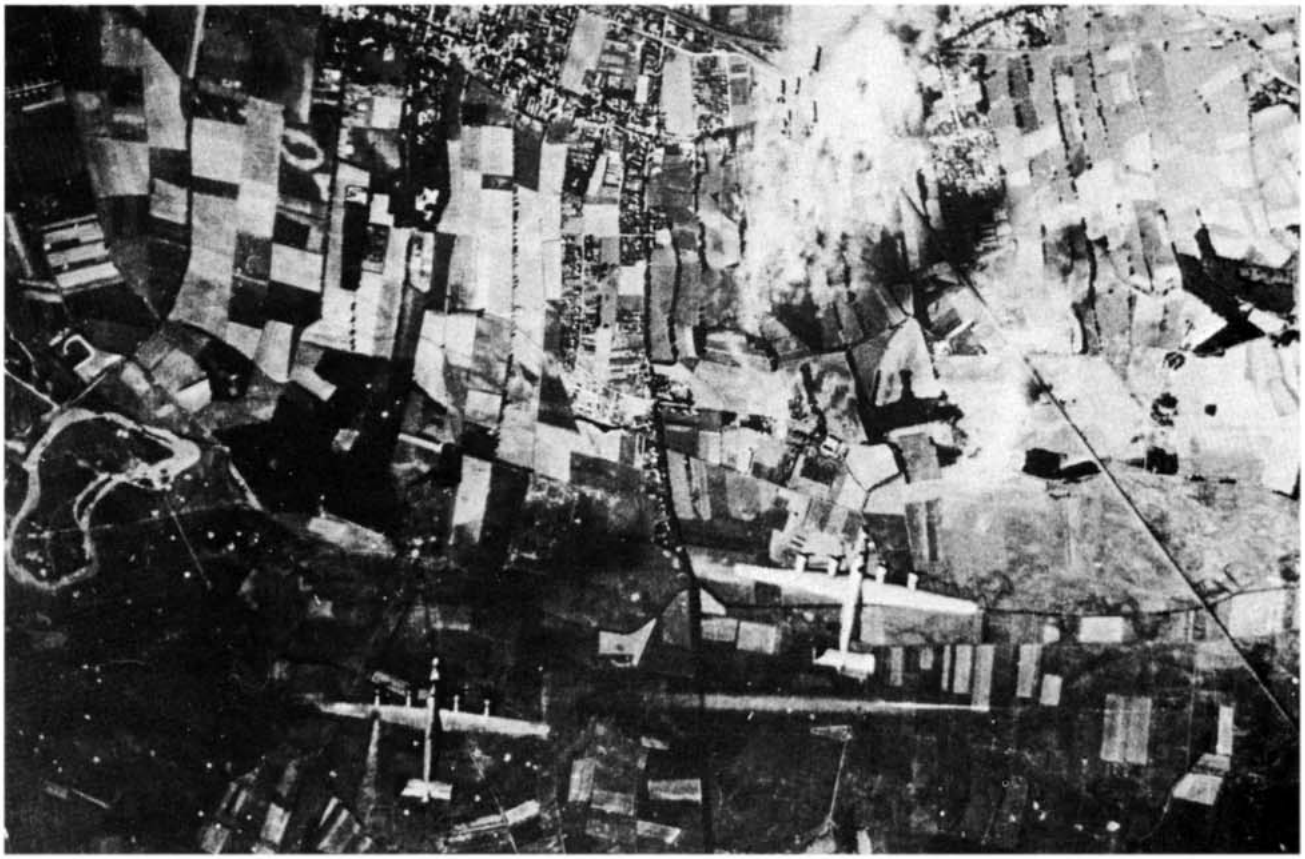
'When we reached this village, I was taken by my captor to a building on the right side of the street in the middle of the village. It was a stone building, and I would presume it to be the town hall. When I entered the building, three of my crew members, Sergeant Brown, Sergeant Austin, and an unknown flight officer who was navigator [Tufenkjian was a last-minute replacement for two regular crew members — Ed.], were already there. I was interrogated by a tall man in the German uniform, rank unknown, who was between fifty and sixty years of age, 6ft in height, and weight around 180 pounds. He could only speak a few words of English. When I would only tell him my name, rank and serial number, he became angry and called over a man in civilian clothes who struck me across the face five or six times with his arm. This civilian was a man around forty years of age, 5ft 8in tall, stocky built with weight around 200 pounds, and wearing no glasses. While he was striking me, the man in uniform said in very broken English, "That is what you get for bombing our women and children." I think those were the only words he knew in English. From there, I was taken to the basement where I was locked in a small room with the other members of the crew.'

After all the crew had been assembled in Greven, they were taken by truck to the local railway station from where they travelled by train to an unnamed Luftwaffe airfield. There they were interrogated by two German officers. Sergeant Adams commented that 'they treated us decently and asked about our wounds'.

They were then transferred to a single storey building a short distance away. Later that evening Bill Adams was taken with the wounded engineer to a small field hospital where Brininstool was operated upon by a doctor 'wearing swimming trunks'. After a piece of shrapnel had been removed from his stomach, Brininstool was taken directly from the operating table by ambulance to a hospital in Münster where he underwent a second operation while Adams returned to the others.



That last flight took the *Wham! Bam!* crew from their base in Norfolk to Hannover before they crashed near Greven. After capture, all except Sergeant Brininstool were taken south by train destined for the interrogation centre at Oberursal on the outskirts of Frankfurt. They were to get no further than Rüsselsheim. (Other locations which feature later in the story are also shown.)



The 491st only lost one aircraft and this picture is reputed to show *Wham! Bam!* (left) dropping out of formation. However the smoking No. 1 engine is not entirely consistent with the eyewitness accounts included in the loss report reproduced earlier unless Lieutenant Rogers has managed to extinguish the fire in No. 2 engine reported by Lieutenant Sanders. However Lieutenant Hunt states that the aircraft had fallen 3,000 feet below the main formation when fifteen miles north of Hannover (the target) yet bombs are still seen to be falling towards the top of the picture. (Dan Winston)

Next morning, after a breakfast of potatoes and soup, the eight men remaining were taken to a nearby railway station and put aboard a train. It was now noon on the 25th and the journey south lasted throughout the rest of the day. Unbeknown to the Americans, they were being taken to the Dulag Luft aircrew interrogation centre at Oberursel, north of Frankfurt. At one point, during an air raid, they were taken from the train and spent several hours in an air raid shelter before resuming the journey around 3.00 a.m. on the 26th, and some three hours later the train pulled into the station of Rüsselsheim, fifteen miles south-west of Frankfurt.

During the night the RAF had mounted a major raid on the town using over 400 Lancasters to try to knock out the Opel motor factory which lay alongside the railway line on the western side of the station. The RAF claimed that the factory was successfully marked by Pathfinders and heavily hit during the ten-minute raid, although the Kriegstagebuch of Luftgaukommando VII states that while the forging and gearbox assembly areas were put out of

The B–24 was able to keep flying for some 90 miles before Lieutenant Rogers gave the order to bale out. All the crew landed safely except for Sergeant Dumont who injured his ankle. After suffering further hits, the aircraft crashed on the Beckersjürgen farm (rebuilt in 1948) at Hüttrup — now directly on the flight line from the post-war Münster–Osnabrück airfield just a few hundred metres to the west. The wreckage was strewn in the field on the left and across the road — then a farm track — and we discovered evidence of the B–24 from small pieces found along its edge.

Right: **The development of a new pedestrian precinct in the nearby town of Greven has only recently led to the destruction of the old Rathaus which stood on this spot. It was to that building that the captured crew were first taken although the Americans had no idea of where they were at the time.**

action, 90 per cent of the other departments escaped damage. Be that as it may, the fact that 179 of the townspeople had been killed did not augur well for the American crewmen who arrived in the aftermath of the attack. The mood in Rüsselsheim that morning was ugly and tempers against the Allied 'terror-fliers' were running high.

As the railway line ahead was blocked, the eight Americans, escorted by their three Luftwaffe guards, dismounted from the train. They could see that the town had been badly hit; as Sergeant Brown later recalled, it was 'bombed completely out. The town was flat.' For a while it seemed that the guards were unsure of what to do next, for the senior man, described by Brown as 'a Lance

It has not been possible to positively identify the next place of their detainment — the Luftwaffe airfield — although it was most probably the wartime base at Münster. From there a stop-go train journey of some 18 hours took them south as far as Rüsselsheim. Here the line ahead was blocked from an RAF attack just hours earlier and the eight Americans dismounted onto this platform.

Corporal with one stripe, a stout man, about 40 years old, about 5ft 8ins tall' left the group and they never saw him again. The other two guards, 'enlisted men, one about 35 years old, the other 38 or 40' then started to move the group off the station and across the Bahnhofsplatz on the northern side of the tracks. Sergeant Dumont with his injured ankle was having difficulty in walking and

The RAF target had been the Opel factory — today overlooked by a statue of its founder, Adam Opel, standing in a redesigned Bahnhofsplatz. From here the crew were led by their guards towards the Frankfurter Strasse.

was being helped along by the other crewmen.

It was immediately apparent that hundreds of people were evacuating that part of town, Adams estimating a figure of at least four or five thousand people 'leaving town on both sides of the street'. The American airmen soon attracted a hostile audience which very quickly grew to a crowd of 'between 250 and 300 people'. It still appeared that the two Luftwaffe guards had no idea of where they were supposed to be going and, when people began throwing stones, they made no attempt to intervene or to try to take the party back to the station.

Reaching Frankfurter Strasse, someone in the crowd threw a piece of iron, hitting Lieutenant Rogers on the head. This appeared to be the sign for a free-for-all to begin, and a hail of missiles began to bombard the men. As they proceeded east along the main road, they passed the Park Hotel where three women came out of their shop shouting to those in the crowd to kill the airmen. The women joined in the general tumult and, as the Americans stumbled along, they were subjected to a continual rain of blows from bricks, broomsticks, shovels or whatever came easily to hand.

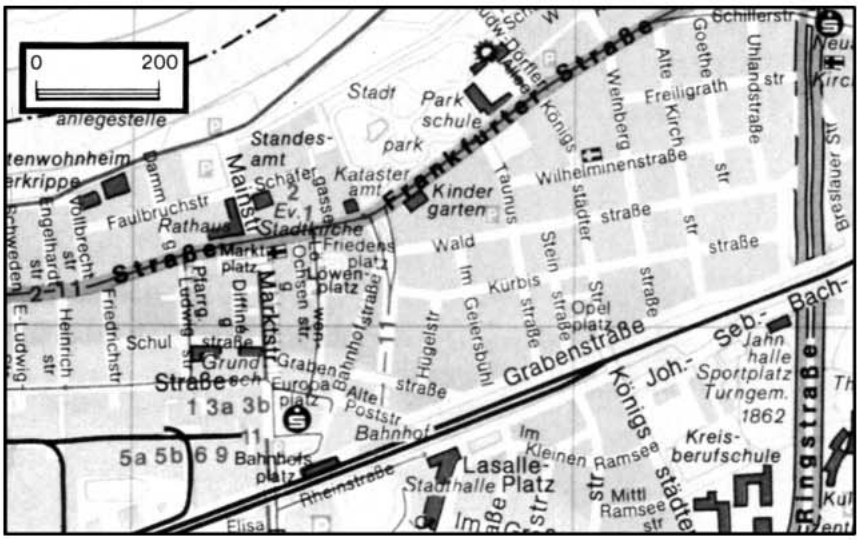
Having lost all control of the situation the guards were powerless to stop the riot. Reaching the junction with Taunusstrasse, a turning on the right, somehow, either by accident or design, the Americans were swept or ran round the corner and down the street which led back to the railway line. German witnesses later recalled that all the men were bleeding badly, one was being carried on the back of another, and as each fell he would be helped to his feet by his comrades. 'Sgt. Dumont had a broken leg and I was helping him', testified Adams later. 'We were both knocked down and I had to leave him and run away. At the next block I joined the other six men. There we were all beaten with clubs and anything that the people had in their hands.'

Sergeant Brown later described how 'we were attempting to help Dumont, who had a broken ankle, along as best we could in the crowd, but as we moved on he soon fell to the ground; he was the first to fall and the people pounced on him and beat him to death right there in the street. We saw it happen. The rest of the crew were just shoved on forward approximately fifty yards from where Dumont fell.'

At the bottom of Taunusstrasse, a brick wall ran along the edge of Grabenstrasse between the street and the railway line. Here a ready-made supply of weapons from air raid damage — rocks, bricks, beams and large pieces of timber — provided the means to set about the remaining Americans with a vengeance. Sergeant Brown: 'We started moving along the wall and got a few yards. William Adams was the next man to be beaten to the ground. I couldn't tell how badly he was hurt. I fell shortly afterwards and played possum. They must have thought that I was dead because I was covered with blood from the blows on my head. As I went down I could see the rest of the boys who were ahead of me along the wall and they were being beaten to the ground also. I couldn't see much from then on as I was playing dead.'

At this point, having been beaten to the ground, the victims received additional poundings from clubs until the fury of the crowd had been well and truly vented. Then, leaving the Americans lying where they had fallen, the crowd began to disperse. What happened next is recounted in Sidney Brown's testimony given to Walter P. Brenan, an agent of the Security Intelligence Corps of the Eighth Service Command, in October 1945 during an interview in the District Intelligence Office in San Antonio, Texas. Maxine Kelly transcribed his answers.

The Frankfurter Strasse — today a wide thoroughfare lined with fashionable modern shops. One must try to imagine it on that morning in August 1944 in the aftermath of a heavy air raid; the road strewn with rubble and glass (if there was any in the windows left to break); and packed with those people who had just had enough and were fleeing the town and its motor works which had made it such a vulnerable target.



It was about here that the trouble really started when Kathe Reinhardt and Margarete Witzler came out of their tobacco shop next to the Park Hotel (on the left-hand side and now a school) — no doubt to see what all the noise and commotion was about.

Just past the Park Hotel, the shell of a bombed out building still remains as a silent witness to the events of forty years ago. Around this spot Philip Gutlich joined the fray and Josef Hartgen began to incite the crowd to beat the Americans to death.

This shot is taken looking back down Frankfurter Strasse. At this point the mob reached Taunusstrasse (on the left) down which the airmen were herded, beaten and bleeding, back towards the railway line.

The street is quite narrow, about 400 metres long, and here Johannes Seipel, George Daum and Johann Opper particularly stood out over their vicious ill-treatment of the prisoners as they stumbled along towards Grabenstrasse.

Reaching the railway, the final act was about to begin. Crouching beside the wall which separated Grabenstrasse from railway property, the Americans (the townspeople thought that they were Canadians, shot down earlier that morning) were set about with a vengeance. Friedrich Wust leaned over the wall from the railway side and aimed hammer blows at their heads while August Wolf and Karl Fugmann battered them with bricks. Hartmann joined in with a club.

Agent Brenan: What happened next?

Brown: After a while the crowd seemed to disperse and the next thing I knew several persons were pulling a small hay wagon by hand. I managed to see them pick up and throw William Dumont's body into the wagon and then they pulled the wagon over and picked up William Adams and threw him into the wagon. I was the next one to be picked up and thrown into the wagon. Each of the other men were picked up and thrown in on us as we were being pulled down the street. I could not tell who was pulling the wagon, but I know they pulled it for 15 to 20 minutes before they stopped. Things were much quieter but I could hear two or three voices. I know the co-pilot, John Sekul, was still alive because I was having difficulty breathing as we moved along in the wagon and I whispered to him to move over a little bit and he did. The wagon stopped and I could hear voices again and I attempted to peep out, being careful not to move. I saw some person, whom I can't describe, with a club in his hand, come over to the wagon — apparently to finish us off. Sekul's hand was on my shoulder and I could feel him wince as this person beat him on the head, I felt his hand slide from my shoulder as he died. Thomas Williams was also next to me and I heard him make a sound as he was finished off. I thought that all of the crew had been killed by this time. I could see that the flight officer, name unknown, had his brains beaten out and the pilot, Rogers, had his head beaten in on one side by what must have been a 2×4. I waited for what must have been 10 or 15 minutes, until it seemed that all the people had left. When it was completely quiet I started stirring around to get out of the wagon. It was then that I learned that William Adams was also still alive. As we got out of the wagon I could see that we were in a graveyard surrounded by a stone wall approximately six feet high and that there was what appeared to be a chapel in the middle of this graveyard. As we left the wagon we ran for this chapel. We stayed in the chapel for a few minutes and I pulled off my heated flying suit which I had been wearing all the time. We left the chapel and proceeded in a westerly direction. We hid in the woods in the daytime and travelled at night, after leaving this chapel. We were captured four days later, on the 1st of September 1944, by a civilian policeman and he told us that we were near the Rhine River, but I don't believe it was the Rhine.

Brenan: Do you remember anything else about the graveyard?

Brown: No, but I am certain that it could be identified in this town.

Brenan: Could you identify or describe any of the civilians you saw beat you or any of the other crew members?

Brown: No, it was impossible for me to tell what they looked like. All I know is that there were from 250 to 300 people shouting and beating us.

Brenan: Is there anything else you can tell us about the killing of these men?

Brown: Well, I knew that the pilot, Norman J. Rogers, did not have his dog tags on because I didn't have mine on and we had talked about it when we were first captured. I was worried about what might happen to me and I mentioned it to Pilot Rogers.

Brenan: Is there any other information you can give us?

Brown: No, I believe that is all.

The chapel in the Waldfriedhof cemetery on Hasslocher Strasse where Sidney Brown and William Adams took shelter after they escaped from the cart.

The survivors. Hartmann bungled his attempt to finish off the airmen with shots to their heads. Sergeant Brown *left* and Sergeant Adams *centre* were subsequently captured and sent to a prisoner-of-war camp where they secretly agreed not to speak of the killings to spare the anguish of their buddies' families if they discovered the brutal way they had been killed. Staff Sergeant Brininstool *right*, who had been split from the others in Münster because of his wound, had no idea what had befallen the others until after the war. It was he who sent us pictures of all the crew (except the last-minute replacement, Tufenkjian) which were specially taken in England in civilian clothes to provide the Resistance with a photograph to complement any forged papers they might need in order to escape to England if shot down.

After their capture Sergeant Brown, together with Adams, was transferred to Stalag Luft IV on September 12 where they remained for the next six months. The Germans did not realise that they were survivors of what was to become known in post-war years as the Rüsselsheim Death March, and they were treated like ordinary prisoners, receiving medical attention for their wounds. In February 1945 the prisoners were marched back towards the Elbe river to avoid capture by the advancing Russians and they were finally liberated by a unit of the British Army at the beginning of May 1945. Brown and Adams returned to the United States the following month.

When Rüsselsheim was captured by the US Third Army in March 1945, French and Polish forced labourers spoke of an incident involving some Allied airmen the previous August but, in the confused situation of the period, apart from noting the brief details, nothing further was done until Germany surrendered. In May, Major Luke P. Rogers was assigned to the Twelfth Army Group as a war crimes investigator and he arrived in Wiesbaden to begin a preliminary examination of the many reported incidents in Army Group records. The Rüsselsheim file, although it consisted only of the Third Army report and a brief newspaper clipping from the *Daily Express*, neither of which mentioned any names, caught his eye and he singled it out for early attention. Accompanied by Lieutenant Ephraim London and

The investigation. When Rüsselsheim was captured, the US Third Army noted reports that some Allied airmen were said to have been killed in the town and the alleged incident became one of the first war crimes to be investigated when the war was over. Here Captain William R. Vance, the Assistant Trial Judge Advocate of the US 12th Army Group, examines a piece of concrete used against the airmen.

The historian. The Editor, retracing the route of the notorious Death March, pauses for thought on the corner of Taunusstrasse.

Members of the War Crimes Commission examine the spot on Grabenstrasse where the airmen finally met their end.

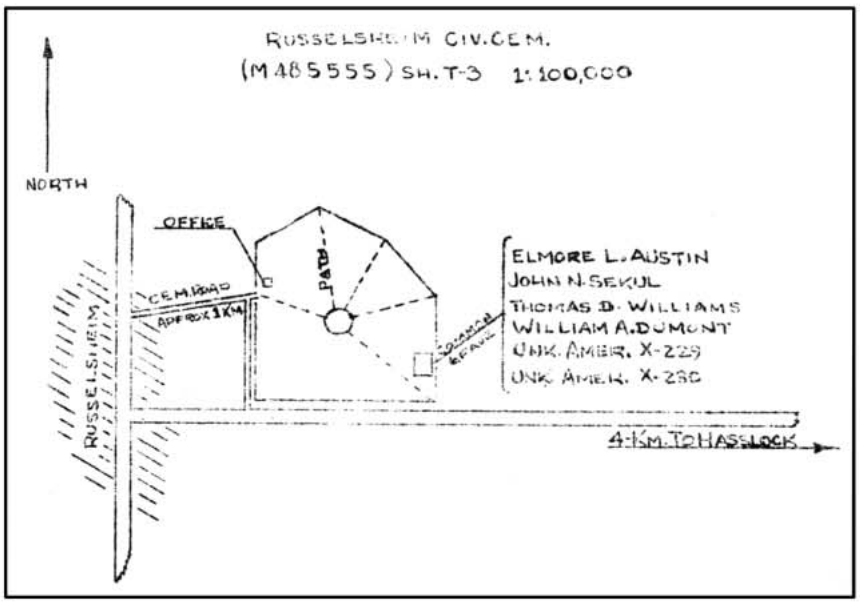
In June 1985, exactly forty years after the Commission's investigation, we made our own poignant tour of Rüsselsheim. At the bottom of Taunusstrasse (seen on the left) we found that, although the pavement in Grabenstrasse had been narrowed, the wall against which the Americans were beaten was still standing.

In a remote corner of the town cemetery, Captain William Vance inspects the common grave pointed out by Tec 5 Sigi Strauss.

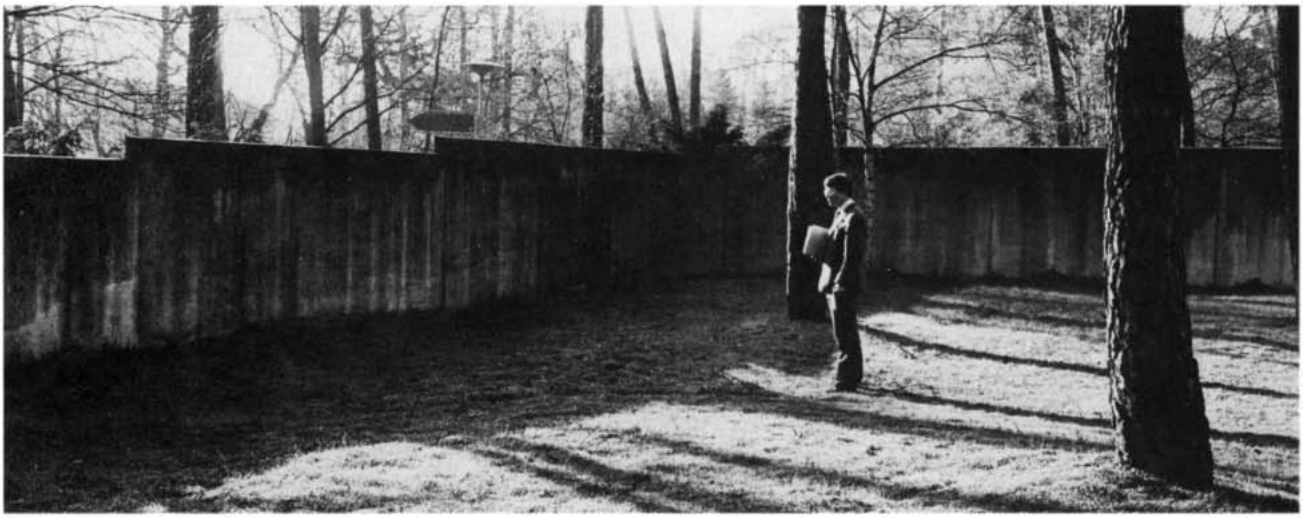
an interpreter, Major Roberts set out for Rüsselsheim early in June.

'Our first stop in Rüsselsheim was at the Geman police station', wrote Major Rogers in 1947. 'The police chief, whose name was Wagner, told us that he had been appointed by the American Military Government after the occupation of Rüsselsheim. He said that he wasn't living there at the time that the flyers were murdered but he knew about the case and had prepared a list of the perpetrators which he had gathered from the town gossip. He handed me a list of twenty-one names. As I examined it, I noticed the German word "fort" in parenthesis after several names. I asked the interpreter what that meant and he said that it meant "fled". I then asked the police chief where the other people were and he said they were there in Rüsselsheim. This news was almost too good to be true.

'The police chief told us that the Bürgermeister knew much more about the case and had been living in Rüsselsheim when the murders occurred. So we decided to pay him a visit. We questioned him for several hours and for the first time got the full story. And a brutal and shocking story it was. The Bürgermeister claimed that he was not an eyewitness to the murder but had heard all about it on the day it happened.



Initially only four of the bodies could be identified as Norman Rogers was not wearing his ID tag. The sixth victim was Haigus Tufenkjian.



'With the help of the list that we had gotten from the police chief, this is the story that the Bürgermeister told:

'The bombing attack on the night of August 25th had destroyed the rail line through Rüsselsheim. The next morning about 8 o'clock the crew of flyers came along the main street of the town. (The Bürgermeister thought the flyers were Canadians as did the other people in Rüsselsheim. We did not discover that they were Americans until the bodies were disinterred.) As the prisoners approached the Park Hotel, three women who ran a tobacco shop next door, Kathe Reinhardt, her sister, Margarete Witzler, and the latter's daughter, Lilo, began to shout at them, crying, "These are the terror flyers, beat them to death." A crowd started to gather. The crowd was in an ugly mood as a result of the raid the night before. The three women then began to throw stones at the flyers. The crowd began to increase in size.

'At this point, Philip Gutlich, a tavern keeper, struck one of the flyers with a club. The two German soldiers guarding them did nothing to protect their prisoners.

'The flyers now started to run. One of the prisoners had an injured leg and two of the others were carrying him on their backs.

'Here the local Nazi Party leader, Josef Hartgen, came on the scene. In true Nazi fashion, he soon made his presence felt. He shouted to the crowd to beat the flyers to death and fired a pistol in the air several times to further incite them.

'As the hard-pressed flyers ran along the main street, they came to a side street. They turned into this in an attempt to get away from their attackers. The crowd, now like beasts, followed them. A short way down this street a farmer, Johannes Seipel, beat the prisoners with a club and a factory worker, George Daum, beat them with a shovel. All the while they were being pelted by bricks and stones. A little further along, a railroad worker, Johann Opper, beat them so hard with a broom that it broke in his hands.

'At the end of this street was a railroad, along which ran a stone wall about six feet high. The unfortunate prisoners, tired and badly beaten, turned to the right at this point and crowded against this wall to protect themselves from the mob. The really brutal phase of the murder took place here. Three factory workers, August Wolf, Karl Fugmann and Friedrich Wust, came across from the other side of the railroad tracks. As the flyers crouched together against the wall for protection, Wust leaned over the wall and struck them on the head with a hammer. Wolf and Fugmann threw large stones and railroad ties on the prisoners. Hartgen, the local Party leader, who had played an important part in setting the mob in action, now took an active part in the beating and struck several of the prisoners with a club. Wust came down from the wall and struck the prisoners on the head with the hammer as they lay on the ground. There were also three or four men in German Army uniform who participated in the brutal beating here — no one knew the names of these men. Finally, when there was no more sign of life from the victims, Hartgen shot several of them in the head.

'The bodies were then piled onto a farm wagon and the wagon pushed to the town cemetery. The bodies were left there on the wagon. In the evening, Hartgen went to the cemetery and some more shots were heard. The next morning, the murdered flyers were buried together in a common grave.'

As fourteen of the accused were still living in Rüsselsheim, Major Rogers took immediate steps to have them picked up, and they were taken into custody and held in the prison at Darmstadt which had been taken over by the US military authorities. Wust

The grave had been marked with a rough wooden cross. In this picture dated June 26 local men, reputedly prominent Nazis, were made to do the digging.

Photographs were taken during the exhumation: this one was presented at the subsequent trial as Prosecution Exhibit 13. The autopsy showed that four of the men, John Sekul, William Dumont, Thomas Williams and Elmore Austin, had all been shot through the head as well as suffering formidable fractures of their skulls.

In 1945 this field at Bensheim was a US military cemetery and it was here that the remains were taken by the 48th Quartermaster Graves Registration Company to be buried on June 30 in Plot U, Row 25. Today all trace of the cemetery has been expunged, but on the opposite side of the road lies a military cemetery established in 1956/57 by the Volksbund Deutsche Kriegsgräberfürsorge of German dead, many buried by the Americans in the last weeks of the war.

could not be found although he was later tracked down at at Oppenheim and, after a long trawl through Seventh Army detention centres holding former Nazis, Josef Hartgen was traced and transferred to Wiesbaden for interrogation. Left alone in his cell, he slashed his wrists on the bed springs and was near death by the time the suicide attempt was discovered, but he was rushed to hospital where he recovered sufficiently to stand trial.

Meanwhile arrangements had been made with the US Graves Registration Group to disinter the bodies from where they had been buried in a corner of the town cemetery. Six leading Nazis from Rüsselsheim were made to do the digging and it was not until the remains were uncovered that it was realised that the victims were not Canadian, but American. When only six bodies were found, the excavation was enlarged, as almost everyone who had been questioned had said there were eight airmen, and at this stage Major Rogers had no idea that there had been any survivors. Of course no further bodies were found.

The remains were transferred to Bensheim where a thorough examination by the pathologist, Captain Berg, revealed that apart from fearsome head and other injuries, four of the airmen had been shot in the head one or more times. They were then buried in the temporary US cemetery which had been established on the edge of town.

It was now the end of June and Colonel Leon Jaworsky, a renowned American lawyer from Houston, Texas, was assigned to prosecute the case. Although six of those arrested had been released for lack of evidence, some proved to have been witnesses and Major Rogers, now working alone on the investigation, questioned everyone living along the route of the death march.

The trial began on July 25 in the old courthouse in Darmstadt before a six-man military tribunal headed by Brigadier General Garrison Davidson and during the trial the Commission walked over the entire death route.

The eleven accused, against whom it was believed that the charges could be developed successfully, were defended by Lieutenant Colonel Roger Titus and by German lawyers of the defendants' own choosing. The public trial lasted six days, and forty eyewitnesses were called for the prosecution. The defence claimed that the townspeople were under extreme provocation so soon after the air raid, and that the killings thus took place under extenuating circumstances.

Having retired for some eight hours, the Commission announced its verdict. Josef Hartgen, Friedrich Wust, Kathe Reinhardt, Margarete Witzler, Philip Gutlich, Johann Opper and Johannes Seipel were found guilty and were sentenced to death by hanging. George Daum was sentenced to twenty-five years with hard labour and Heinrich

The trial was held at Darmstadt in the Amtsgericht on Gustav-Lorenz-Strasse. Eleven civilians were accused: Front row L-R: Karl Fugmann, Johannes Seipel, Kathe Reinhardt with her head in her hands, Margarete Witzler and Josef Hartgen. Behind are Heinrich Barthel, George Daum, Johann Opper, Philip Gutlich, August Wolf and Friedrich Wust.

Inside the courtroom — now Court 404 — virtually nothing has changed . . . the same decor . . . the same bench . . . the same chairs . . . all except the flag but even then we found the unrepaired nail holes still in the panelling!

Barthel and August Wolf to fifteen years with hard labour. Karl Fugmann was acquitted.

The trial was widely reported in the Press on both sides of the Atlantic, and it was with considerable amazement that, some three weeks after the trial was over, a letter was received by Brigadier General Davidson signed by two men currently serving at an air base in Florida claiming that they were with the group in Rüsselsheim when it was attacked. We can imagine General Davidson's feelings as he read the following:

Dear Sir,

After reading of the trial of eleven Germans for the murder of six American flyers, in Darmstadt, the last week of July 26, we would like to inform you that it was Lt. N. J. Rogers' crew of the 491st Bomb Grp. The papers give the names of only four members. Here is the full crew list of those that were killed:

2nd Lt. Norman J. Rogers
2nd Lt. John N. Sekul
F/O Haigus Tupenkjian
Sgt. Thomas D. Williams
Sgt. William A. Dumont
Sgt. Elmore L. Austin

According to the report in the paper the Germans gave the right reports. Here is our story: We are two members of the crew that escaped after we were carried to the cemetery.

We all got out of the ship O.K. Were picked up right away and on the night of August 24th we stayed at a German's air corp base. Two members of the crew were wounded by flak, one in the stomach and they kept him at the base there. The next morning the rest of the crew, 8, started by train to the interrogation centre down near Frankfort-on-the-Main. We rode until about 12 o'clock on the night of August 25th and had to go into an air raid shelter. About three o'clock, we again got on the train and about 6 o'clock came to the town of Rüsselsheims *(sic)* and we think the tracks were bombed out ahead and we had to get out and walk. William A. Dumont broke his ankle when he jumped and we were taking turns carrying him when we went into this town, and the people attacked us. There must have been better than 150 people. After they beat us down we were carried to this grave yard, and everybody walked off and left the cart. William M. Adams and myself managed to get off the wagon and leave. We were picked up four days later.

We had a box with us with all our watches, rings, wallets and other personal belongings in and also our escape kits. This was taken away from us during the attack. There should be about ten times the number on trial.

The two members of the crew that was'nt identified were the pilot, 2nd Lt. Norman J. Rogers, and the navigator, F/O Haigus Tufenkjian.

The names of the rest of the crew were released by the New York Times before the War Department notified their next of kin.

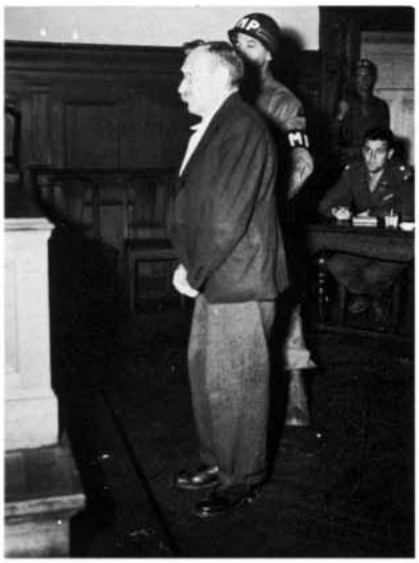
If it is possible, we, Sgt. William M. Adams and Sgt. Sidney F. Brown, would like to come back and do anything we can to help in the trial.

We would appreciate if you would have reports sent to us on the outcome of the trial.

Thanking you,
Sincerely yours,

William M. Adams
Sidney E. Brown

Although the legal process had already run its course as far as the eleven Germans indicted were concerned, the discovery that two members of the crew had survived the terrible beatings was incredible news and the

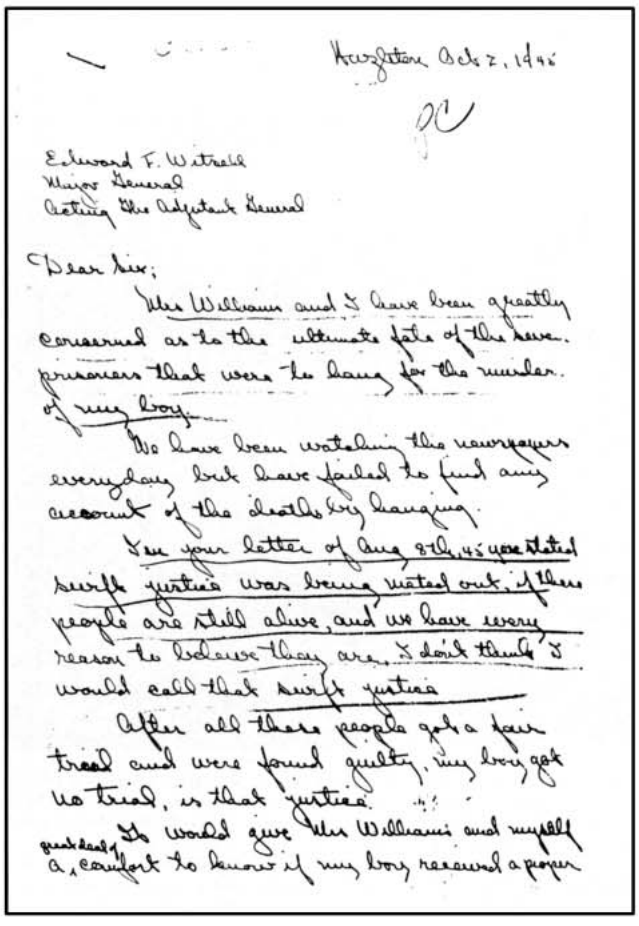


Twenty-eight witnesses were called for the prosecution and 21 for the defence. Fugmann was identified by a 76-year-old man as not having participated in the beatings and he was acquitted. Wolf claimed to be an innocent bystander, his statement being supported by Barthel and, together with Daum, the three received sentences of imprisonment. Hartgen, a foreman at the Opel works, was identified by Franz Rinkes, a prosecution witness, as having shot four of the Americans in the head as they lay on Grabenstrasse, and death sentences were meted out to him and the rest of the accused. *Left:* **Kathe Reinhardt has to be supported by a military policeman as she is condemned to death;** *centre:* **Margarete Witzler cries 'Nein Nein' yet Johann Opper** *right* **listens with a blank stare as Brigadier General Davidson pronounces the supreme penalty.**

Left: **Members of the Commission pose on the steps of the courthouse to be photographed by T/4 Albert Gretz (who took all the Rüsselsheim photographs). L-R: Colonel J. Surratt, Brigadier General D. Stevenson, Brigadier General Garrison Davidson, Colonel L. Perry, Lieutenant Colonel W. Fondren and Colonel J. Dicks.** *Right:* **Normally today only the right-hand door is used but we persuaded Herr Andel to prise open the other one for our comparison.**

Office of the Judge Advocate General in Washington was immediately cabled requesting that the two men be interviewed and questioned fully on the murders to see if any other Germans present in the crowd could be identified. As we have seen earlier, Sidney Brown was interrogated by Agent Brenan, and William Adams was seen by 2nd Lieutenant Thomas J. Fallon of the Foreign Positive Intelligence Section, Security and Intelligence Division, at Dover Air Field at Delaware, but both airmen stated that they would not be able to identify any of the civilians who beat them. Colonel Jaworsky later wrote that they had 'solemnly pledged that they would never reveal to anyone the horror of their experience at Rüsselsheim. This was to keep the loved ones of the murdered boys from knowing the gruesome way they had died.'

The sentences of the court were reviewed by Seventh Army and the Commanding General, and General Keyes commuted the death sentences on the two women to thirty years imprisonment. On November 10 the five men ascended the scaffold and were hanged in the US Army prison at Bruchsal.



Harleton Oct 2, 1945

Edward F. Witsell
Major General
Acting The Adjutant General

Dear Sir;

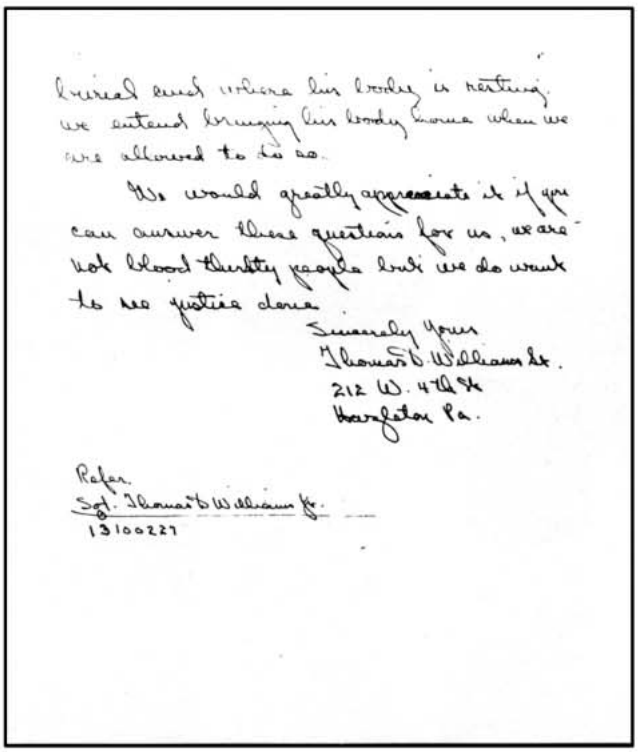
Mrs Williams and I have been greatly concerned as to the ultimate fate of the seven prisoners that were to hang for the murder of our boys.

We have been watching the newspapers everyday but have failed to find any account of the deaths by hanging.

In your letter of Aug 8th 45 you stated swift justice was being meted out, if these people are still alive, and we have every reason to believe they are, I don't think I would call that swift justice.

After all these people got a fair trial and were found guilty, our boy got no trial, is that justice.

It would give Mrs Williams and myself a great deal of comfort to know if our boy received a proper



buried and where his body is resting. We intend bringing his body home when we are allowed to do so.

We would greatly appreciate it if you can answer these questions for us, we are not blood thirsty people but we do want to see justice done.

Sincerely Yours
Thomas B. Williams Sr.
212 W. 4th St
Harleton Pa.

Refer.
Sgt. Thomas B. Williams Jr.
13100227

In October 1945 the death sentences on the two women were commuted and they were confined in Landsberg Prison (see *After the Battle* No. 9). However, after the flurry of press reports during the period of the actual trial, once this was over the whole incident seemed to die a death and the absence of any follow-up news led Tom Williams' father to write to the authorities that same month.

Major Clarence L. Yancey of the USA War Crimes Office replied to Mr Williams on November 9, the eve of the day that the executions were due to be carried out in Bruchsal Prison, the death sentences on Hartgen, Wust, Gutlich, Opper and Seipel having been reviewed and approved by the European Theater Judge Advocate. 'I have your letter of October 2, 1945, addressed to Major General Edward F. Witsell, Acting The Adjutant General, with reference to the carrying out of the executions of certain German civilians found guilty of the beating and killing of American airmen at Rüsselsheim, Germany,' wrote Major Yancey. 'The reason for the delay in carrying out the decree of the court, is that the perpetrators of this crime are being continually questioned as to their knowledge and identity of other individuals who may have committed certain other crimes and mistreatment to American military personnel. If the decree of the court were carried out, these investigations would have to be closed and thereby other parties might escape, and not be identified and brought before a court of justice. As soon as all investigations are completed, the decree of the court will be carried out. I appreciate your interest in this matter and I assure you that I too, am interested in meting out swift justice to guilty parties who have brutaly beaten and in many instances killed American military personnel.'

The gallows had been set up within the outer wall and witnesses drawn up facing the scaffold. It was a cold November day and it was raining. Newsmen and still and cine photographers were on hand to record the scene as Master Sergeant John C. Wood, the US military executioner, prepared to carry out the sentences.

Left: **First to mount the scaffold was farmer Johannes Seipel protesting that 'I saw a fellow Engel throw rocks at them. I did nothing! Nothing!' he cried as the hood was placed over his head.**

Right: **His body was cut down; then it was the turn of railway worker Johann Opper. 'If the military won't give me another trial, could I be tried by the church', he protested. He died his last plea unanswered.**

Above left: **Escorted by a burly MP, diminutive Friedrich Wust has his wrists secured before climbing the stairs.**

Above right: **'With this I die with a clear conscience', he uttered before being muffled by the hood.**

Philip Gutlich *(left)*, **another farmer, was more forthright in his last words to the 30 American soldiers present. 'I only did one thing [hit an airman with a club] and only because the American stuck out his tongue at me.' At these words Master Sergeant Wood launched him into oblivion.**

The last to die was Hartgen escorted to the scaffold by a Catholic priest. Before he mounted the steps he kissed a silver crucifix: 'God forgive you because you don't know what you're doing', he is reported as saying.

a town about thirty miles from Rüsselsheim called Dienheim and he was subsequently tried at the Dachau War Crimes Court but, although sentenced to death, the file indicates that he was released on March 1, 1948.

Although the basic facts of the 'Rüsselsheim Death March' have been well publicised before, we believe that this is the first time that the complete sequence of events has been retraced. In our research we visited all the salient locations: from the old USAAF base at North Pickenham to the crash site near Greven; along the route taken by the airmen in Rüsselsheim and thence to the cemetery (where also those Germans executed by the Americans are now buried); to the temporary gravesite at Bensheim, to the permanent US cemetery at St Avold; from the court-house at Darmstadt to the execution prison at Bruchsal.

Besides Sidney Brown and William Adams, Forrest Brininstool survived the war having been separated from the others to have his injuries treated shortly after the crash. Athough he obviously could not throw any light on what happened in Rüsselsheim, he gave us considerable help and was able to furnish us with 'escape' pictures of the other members of the crew.

A theatrical finale for Hartgen as the photographer's flashgun creates an almost Valkyrian end to the last act.

There was one last sequel. Major Rogers had established that there were three or four German soldiers present in the crowd who had taken part in the proceedings and, a few days after the trial was over, one of the witnesses revealed the name of one of them: Franz Umstatter. The witness stated that Umstatter had been one of the more brutal elements in the crowd, and other witnesses were found who corroborated the story, even so far as to testify that he had kicked the Americans so hard he had broken the heel of his boot. Major Rogers tracked him down to

The bodies of those executed were handed back to their families and all are now buried in the same woodland setting where their victims were first discovered. This is Hartgen's grave, the inscription simply stating: 'Hier ruhen Jos. Hartgen 1904-1945.'

Following their temporary interment at Bensheim, the six American airmen were subsequently transferred to the US military cemetery at St Avold in eastern France until the wishes of the next of kin had been established (in 1948). Three families decided to have the remains left in French soil, to lie in the new permanent cemetery which was to be constructed at St Avold by the American Battle Monuments Commission. There in the breathtaking Lorraine Cemetery we paid our last respects to Lieutenant Rogers *(left)* whose widow we knew had been tragically upset to learn of her husband's death only through newspaper reports.

It was obvious when we arrived at the spot where the B–24 had crashed near Hannover that Mr Wilhelm Beckersjürgen and his wife had no idea of the traumatic events which later befell the crew of the bomber which crashed on their farm. They told us that we were the first foreign visitors who had ever inquired about the crash, which leads us to believe that this is the first time the actual crash site of Wham Bam has been pinpointed. Although 15 at the time, Herr Beckersjürgen clearly recalled the aircraft spreading itself across Hüttruperstrasse, two engines ending up in the farmyard itself. There was no visible sign of aircraft remains on the surface but our assistant editor soon ferreted around and uncovered several buried fragments and .50 calibre rounds.

At nearby Greven, we found that the building where the crew were taken was in fact the old town hall which had only recently been pulled down to develop a pedestrian shopping area.

Having obtained a transcript of the trial from the Judge Advocate General's records filed in America, when we reached Rüsselsheim we were able to retrace exactly the route taken by the Wham Bam crew . . . from the station past the Opel works to the Frankfurter Strasse . . . along past the Park Hotel and the former tobacconist shop where the trouble first began, to the Taunusstrasse. By the time they reached this corner, the Americans must have been under little illusion that their lives were seriously in danger as they stumbled down towards the railway line. In bright

Norman Rogers' grave lies in Plot D (Row 3 Grave 14) but Tom Williams *(above)* is in Plot E, Row 44, Grave 17.

The cross marking the grave (No. 16) of Haigus Tufenkjian in Row 48 of Plot E.

'Beloved son, Lt. John Nicholas, 1922-1944, died in service.' The Sekul family grave in St Raymond's Cemetery, Bronx, New York.

'Elmer' Austin was returned to Vermont to be buried with other members of the family in Maple Grove Cemetery, Bakersfield.

Bill Dumont now lies with his mother, Blanche, and father, Joseph, in Mount Calvary Cemetery, Berlin, New Hampshire.

State of Pennsylvania)
: SS
County of Schuylkill,
Klingerstown, Pa.)
WILLIAM M. ADAMS, Rt. 1, Klinger stown, Pa., being duly sworn accord-ing to law, deposes and says: "I am unable to identify the image on the reverse side hereof".
Further deponent sayeth not.
William M. Adams
Sworn and subscribed to
before me this 7th day of July 1947,
all Valley View, Pa.
DONALD B. BERNTSON, 2nd Lt., M.I.

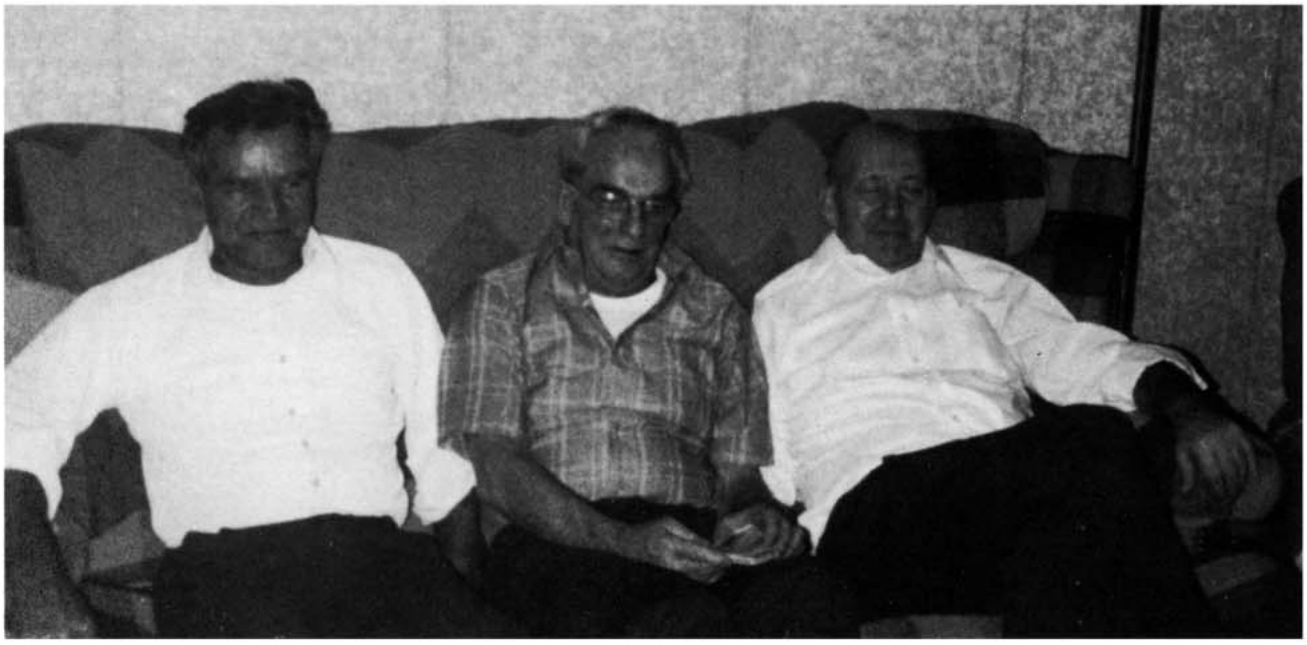
In June 1947 other suspects were implicated in the Rüsselsheim killings and the Judge Advocate had photographs of the men concerned sent to Washington with a request that the survivors Adams and Brown be asked if they could identify them as being present in the crowd. Not surprisingly some three years after the event, the response was negative.

sunshine we reached Graberstrasse at the bottom where the same houses looked out on the scene, almost unchanged since 1945, with the wall still remaining alongside the railway.

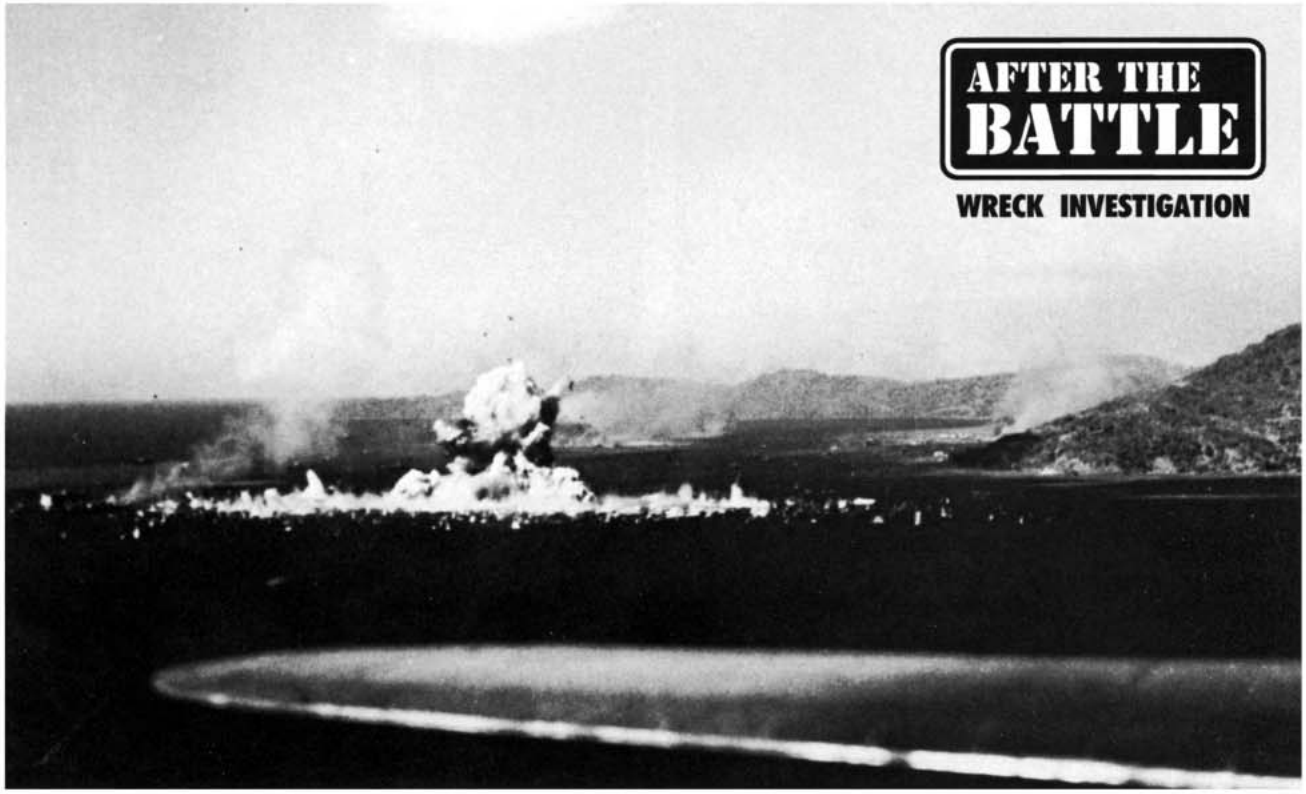
We had little difficulty in establishing the precise spot where the bodies had been buried in the town cemetery, but had to be diplomatic when enquiring for the grave locations of the five men found guilty and executed. When we found the well-tended family graves, the inscriptions gave no clue to the uninitiated as to how they met their end at the prison taken over by the American forces at Bruchsal, a town mid-way between Karlsruhe and Heidelberg. Not realising that this is now one of the top security prisons in the Bundesrepublik, an initial refusal by letter did not deter us from boldly calling at the front door to state our business. Overlooked by armed guards and security cameras, the inner courtyard where the gallows had once stood is now patrolled by a number of fierce-looking guard dogs. Once inside the prison we were met by a charming fräulein who quite firmly explained that no photographs could be permitted within the walls but that there was no objection to us taking a shot of the exterior and that she would advise the guards accordingly.

When we reached Darmstadt, where the American presence is still very much in evidence, we found the court-room used for the trial still in use for the same purpose and were kindly allowed to photograph it by Herr Andel.

A short distance to the south lies Bensheim, the location of the first American burials, but on reaching the town and making enquiries we found that the site of the temporary US cemetery had long been returned to farmland, United States policy being that none of their fallen servicemen should lie permanently in enemy soil. All American graves therefore were removed from Germany after the war and concentrated into cemeteries constructed by the American Battle Monuments Commission in the Netherlands, Belgium, Luxembourg and France. The largest of these is at St Avold in eastern Lorraine where a total of 10,489 graves of Second World War dead are laid out in over a hundred acres of immaculately maintained grounds. Here we found the last resting place of Norman Rogers, the pilot, the navigator Haigus Tufenkjian, and the radio operator Thomas Williams. However, because the United States authorities gave the next-of-kin the choice of burial in a military cemetery overseas or repatriation to America, the other three crewmen, Elmore Austin, John Sekul and William Dumont, were returned to their families in 1948.



In January 1980 Brown, Brininstool and Adams met for the last time, this picture coming from the album of Mrs Rebecca Dietrich, Bill Adams' daughter: 'This picture was taken one year after Dad's cancer was diagnosed — he died that following March 8, 1980. My father was a special person who never spoke harshly, even of his captors.'



AFTER THE BATTLE

WRECK INVESTIGATION

BENEATH THE WATERS OF TRUK

BY KLAUS LINDEMANN

Some forty-five Japanese vessels are known to lie in and around the waters of the Pacific atoll and once major Japanese naval base of Truk, where most of them went down as a result of an American carrier-borne raid in February 1944. Over thirty of them lie in Truk Lagoon, and twelve of these were discovered by Klaus Lindemann.

After more than forty years immersed in tropical salt water, the spectral appearance of many of these vessels calls to mind the image of the popular imagination of the legendary ghost-ship on which the 'Flying Dutchman' was condemned by the Devil to sail for eternity — doomed vessels, with masts and crosstrees and hanging lines . . . derricks spread over hatches . . . bridges, funnels, deck rails, portholes . . . anchors at the hawsepipe or even cock-a-bill. Some show greater deterioration than others, where for instance masts have collapsed, or portions of the bridge have sagged, weakened perhaps by raging fire, while others were torn apart by the explosions that despatched them to the silent, underwater world.

Except for an unsuccessful attempt to recover the submarine *I-169* after she sank by accident during one of the attacks that were later made by island-based bombers, no efforts were made during the war to salvage any of the vessels. After the war, the whaler *Tonan Maru* was salvaged and taken to Japan, but since then the wrecks have been declared war monuments and, apart from some collecting and pilferage, they have remained undisturbed. Then, in 1984, the Japanese Government decided to retrieve the mortal remains of some 120 troops who perished aboard the *Aikoku Maru* and which were discovered by the author.

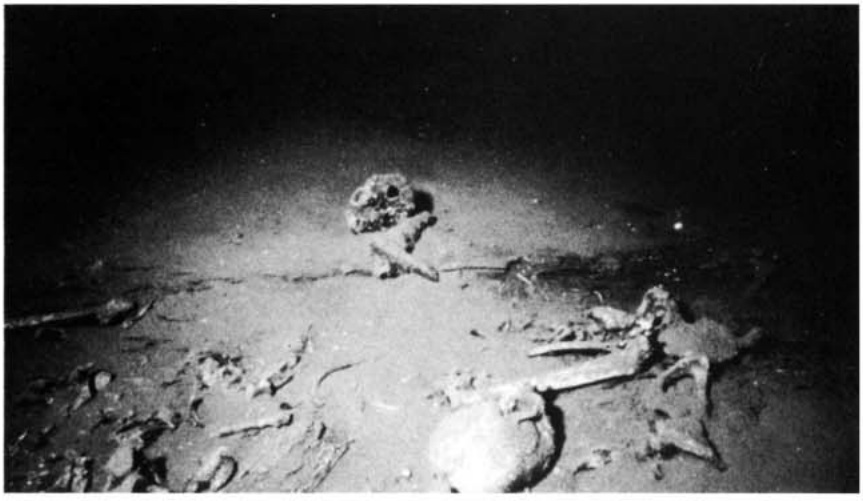
The events that sent the vessels to their graves are outlined by the author in due course as part of this account of underwater exploration — but first he takes us down with him on a dive to explore the *Aikoku Maru*:

EXPLORING THE AIKOKU MARU

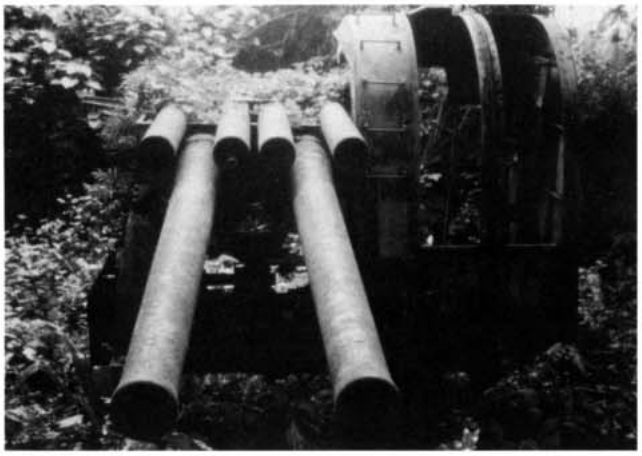
Precariously perched on the gunwale of the little boat, I let go. Putting my right foot forward into empty space, I began to fall and closed my eyes. When the crash down into the water was over, as I surfaced it felt like rising in bubbly champagne.

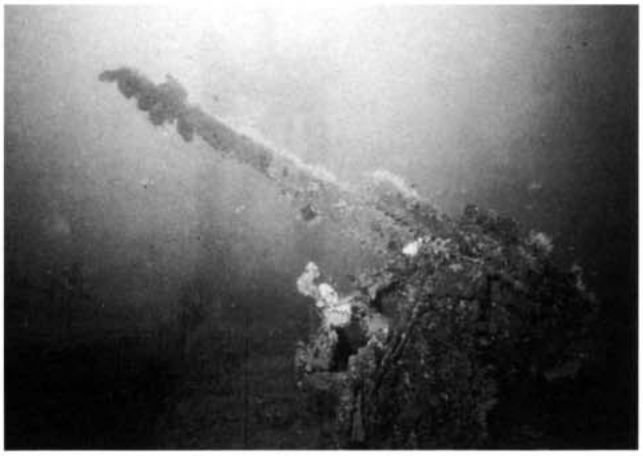
This was well-rehearsed routine, carried out twice a day at least. It was the moment of relief from the hot, tropical sun of Truk Lagoon. The sun's rays were focussed by the surface waves. Bright shafts of light reached deep down, moving around quickly, conveying the mystical feeling of abyssal deep blue water. Searchlights at a bomber raid, that's what they looked like.

Suddenly, I felt a pressure wave and heard a deep sound. My dive buddy had made a stride entry into the water. I watched fascinated as always at the way the bubbles quickly



Top: **The Japanese merchant raider *Aikoku Maru* disintegrates under the detonation of part of its high explosive cargo upon being hit by a crippled TBM-3 Avenger torpedo bomber from the USS *Yorktown*, during Operation Hailstorm — an American carrier-borne attack on the major Japanese Naval base at Truk Lagoon in the central Pacific on February 17, 1944.** *Above:* **The grim aftermath of that explosion is revealed to Klaus Lindemann, our author, upon his examination of the lower decks of the *Aikoku Maru* — just one of some 45 Japanese vessels which lie mouldering on the seabed around Truk today. Positions of 12 of the ships were discovered for the first time by Klaus during his underwater exploration. (National Archives)**





Left: **One of the shore-based 12cm anti-aircraft guns sited on Dublon Island, the main Japanese land base at Truk. It was one of these four guns, possibly this very one, that shot down Lieutenant Briggs' Avenger onto the bridge of the *Aikoku Maru*.** *Right:* **Those guns that still exist on the ship today still point towards the direction from which the American attack came — the south-west. View looking towards the bows, with the aft 'goal post' mast visible faintly behind. The position and elevation of the gun would tend to support the theory that all her guns fired up to the moment when she sank.**

rose to the surface while Mary, my wife, emerged, continued a little further in her descent, stopped and went up, and joined me on the surface.

We re-checked our equipment. I unhooked the camera and the large strobe from the line I had hung overboard, looked both pieces over thoroughly, fired a test picture to make sure everything was in good order and met my fellow divers on the anchor line. Our native friend had joined us, and we were ready.

The anchor line led almost straight down and disappeared from sight some 60 feet below us. Well, I thought, that is only the first third of our descent. It was a very long way down to the wreck.

We were diving on the *Aikoku Maru*, so we had gone over this morning's dive plan thoroughly. I had planned a deep penetration dive into number four hold, the first aft hold of the wreck. Just recently, driven by curiosity, I had dipped into this forbidden dark cavern, weaved around the two levels of hatch cover beams and found an open door beyond the second level below the shelter deck of this once proud cargo-cum-passenger liner. The first two 'tween decks were encased, evidently designed for deck or third class passsengers. What I had seen as I was shining my underwater light into the open door had made me gasp. There were two skeletons right at the entrance. Not daring to go inside (I was alone, for my dive buddy had not followed me on that spur-of-the-moment dip — and no wonder, as it had really not looked inviting at all), I just peered into the door in the bulkhead. The beam of my underwater flashlight did not penetrate very far into the total darkness of the room, but it appeared that there were more human remains at the edge of the lighted circle. For this particular dive today I wanted to go inside and make a sweep, taking photographs every few feet as I went, to properly document this stateroom; also, I wanted to assess the damage to the ship.

The anchor line faded away into the dark. I assumed a head-down diving descent position which allowed me to go down within reach of the half-inch rope. I kicked to accelerate my descent. No more sun-rays glittered; it grew darker and darker. The exhaled air from my regulator bubbled up towards the surface, streaming along my wet suit and passing my legs in ascending cascades.

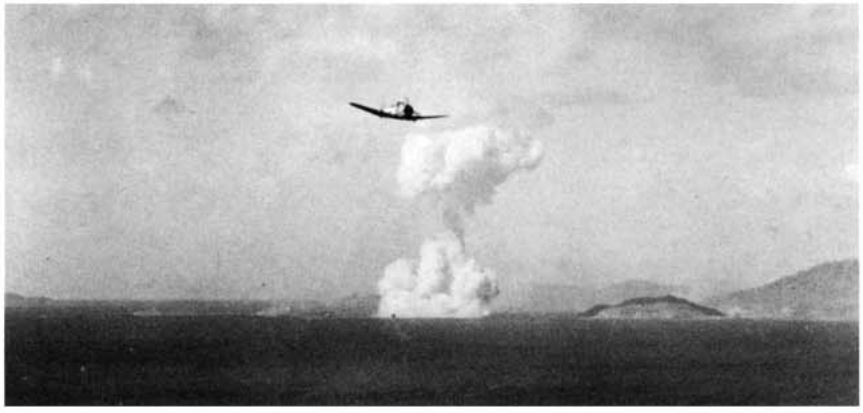
It seemed an eternity. Kick and push and check the breathing rhythm. Air exhaled was irretrievably lost: air breathed in excess during descent could never be made up again. On these deep dives every breath of air counted. We knew that if we required more air than normal we would definitely cut short the precious twenty minutes projected bottom time. Bottom time included descent time and that's why we were pushing. Twenty minutes to investigate an ocean liner with a brain befuddled by nitrogen narcosis . . . quite an ambitious task.

A diffuse grey oval object slowly came into view and began to emerge as the outline of the funnel. My mind was so focussed on the task at hand that I even ignored the unparalleled expertise with which our local dive guide had found the wreck in the open lagoon and put the anchor right in the middle of the ship, missing the two wide exhaust tubes of the funnel by just a foot or so. The anchor being to port of the funnel, I descended steeper, leaving the line, and plunged now straight down.

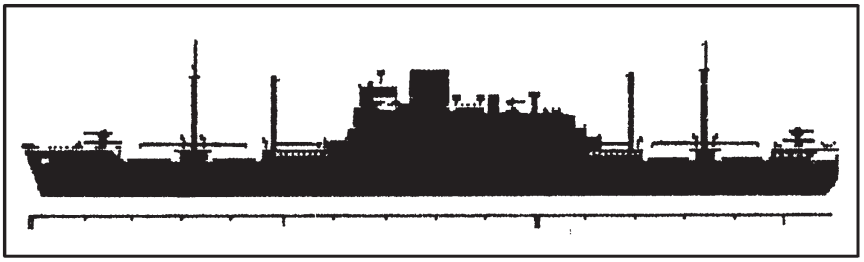
Facing the starboard side of the large, slightly encrusted funnel, I could see the welded markings of the owners. I did not spend much more time there, but turned right before I descended onto the sun deck.

Just ahead of the funnel there was simply no more of the ship. From the sun deck the wreck plunged straight down to the seabed, at about 240 feet. The bridge area had been totally obliterated as had everything forward of it. It looked as if somebody had broken off the forward part of the ship, then taken a hammer to the decks of the superstructure — main deck, shelter deck, passenger deck, boat deck and sun deck — and bent them all upwards.

The devastation had come about on February 17, 1944, during the American carrier-borne attack on the atoll — Operation Hailstorm. An Avenger torpedo bomber of the second strike flown from the carrier *Yorktown* had been making an approach on the Fourth Fleet Anchorage from the south-west when it was hit by one of the four 12cm



The smoke from the explosion which ripped out the heart of the *Aikoku Maru* billows skywards as the attack continues. Dublon Island lies behind. (National Archives)



The *Aikoku Maru* was the third of three passenger freighter liners of 10,000 tons built for the Osaka Merchant Marine. When the ship was nearing completion, it was taken over by the Imperial Japanese Navy and converted into a merchant raider.

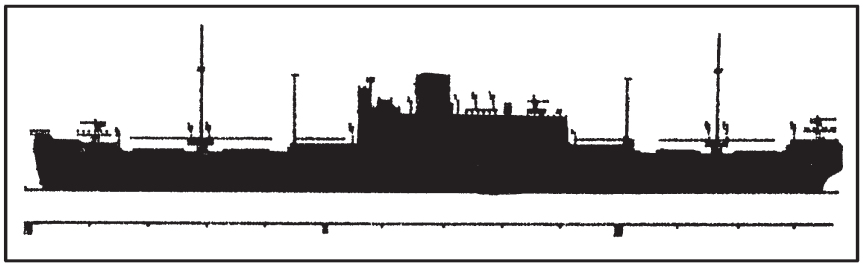
Above: **The 7,621 ton *Amagisan Maru* is hit by a torpedo, sending smoke 150 feet into the air — the wake of the torpedo can be seen on a diagonal heading towards the explosion. (National Archives)**

anti-aircraft batteries on Dublon, the main Japanese island at Truk. With the mortally wounded pilot, Lieutenant Briggs, slumped in the cockpit, the plane had spun out of control and tumbled onto the bridge of the *Aikoku Maru*. Erupting in a ball of fire, it fell into number three hold. This had been almost completely emptied, its cargo of bombs, torpedoes and artillery rounds having been transferred to the *Nippo Maru* and the *Akitsushima* lying at the same anchorage. There were just a few anti-invasion mines left at the bottom of the hold, into which the flaming debris of the plane fell. The mines exploded and threw up a huge pillar of fire.

That would have been the finish of the *Aikoku Maru*, but the destruction had not ended there. The fiery shock wave of the explosion blasted open the bulkhead to the forward hold and ignited the thousands of artillery rounds, dynamite, bombs and other high-explosives stacked in the 'tween decks, and they too went up. The force of this explosion had obliterated the foreship, including the entire bridge, and buckled the decks upwards. The weapon on the forecastle, a 14cm anti-aircraft gun, and smaller machine guns, were hurled high into the air. Part of the hatch coaming of the forward hold was sent flying, to be found by me almost half a mile away to the north forty years later.

A Daihatsu landing craft tied up at the stern disappeared. Aboard another landing craft, caught in the blast as it made for the shore carrying a platoon of a crack Army assault regiment, apparently all were killed except for two of the crew on the bridge. Their eyesight damaged by the flash and the pressure wave, they barely managed to bring the craft ashore, running it up the beach.

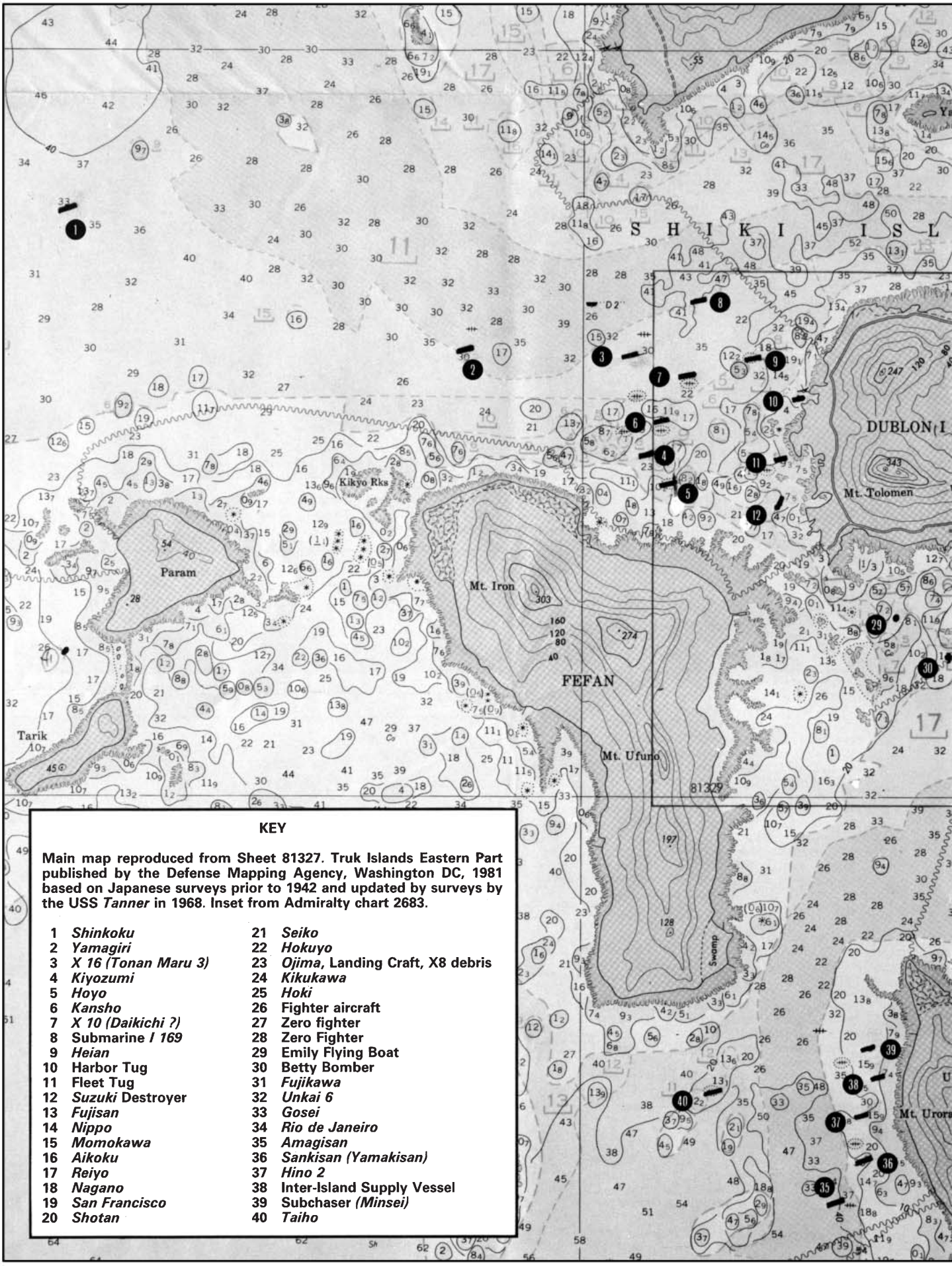
More than a mile away, the pressure wave had thrown my dive guide, then a 17-year-old lad, against a tree and knocked the breath out of him, for he had sneaked out of the family shelter on the main island of Dublon to watch. Standing there on the slope of the mountain, he had looked on in awe at the way in which the magnificent vessel had blazed away at the American planes with her big anti-aircraft guns fore and aft, and her machine weapons on the boat deck. Then she had erupted in a cataclysm of fire, smoke and thunder. On board was a friend of his.



One of her deck guns is still in situ, with a box of ammunition at the ready beside it.

I looked fascinated at the upturned decks, and turned around to swim on the port side past the funnel and then the two twin 3.7cm anti-aircraft machine guns further aft. One of the barrels was in the forward position; the other was retracted, having just that instant fired, with the barrel, breech and lock travelling back. Next to the gun was a case of ammo. We passed the large range-finder at the aft end of the boat deck, which looked strange with its empty davits.

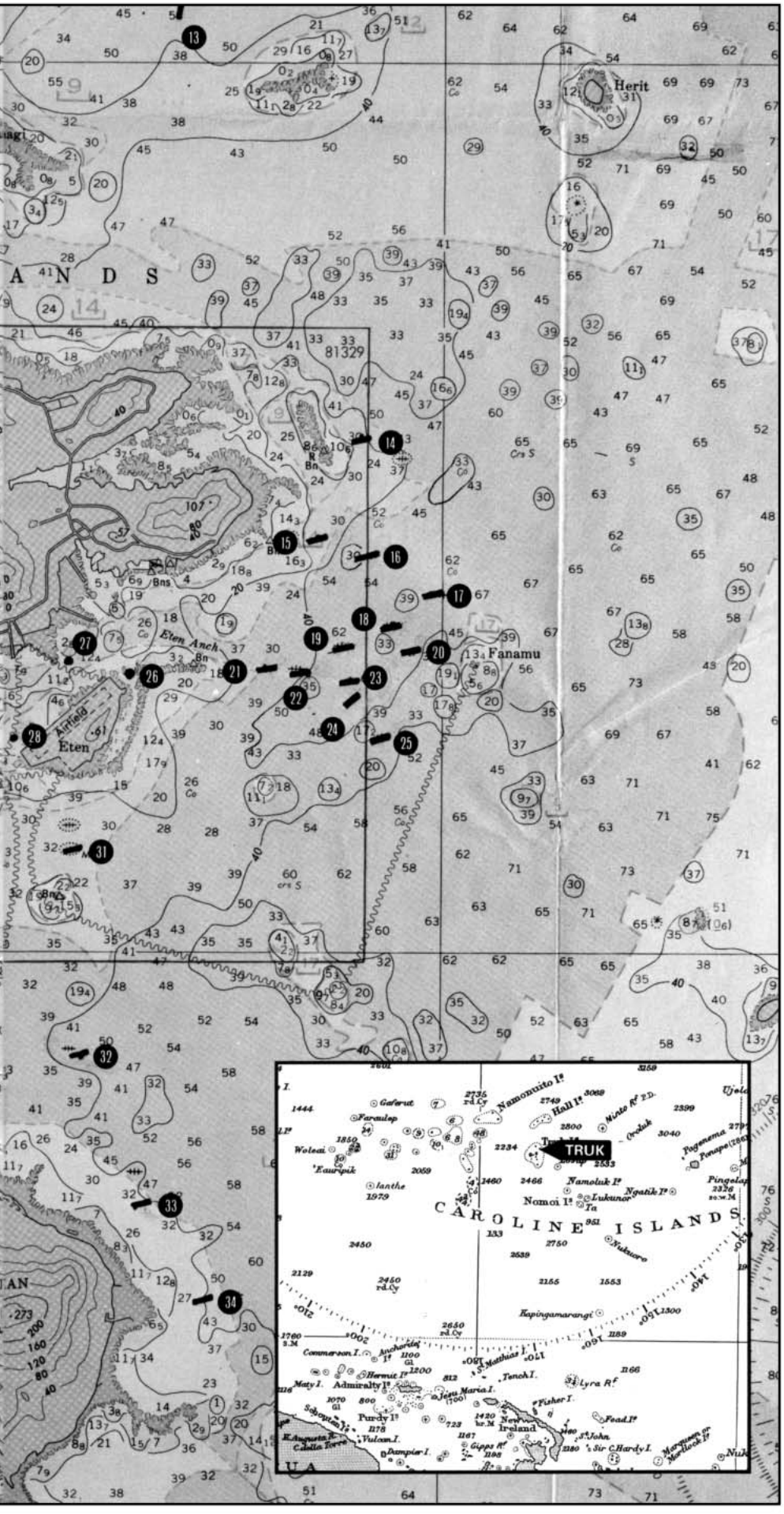
At the end of the boat deck I dived straight down, coming upon the hatch cover beams of number four hold and passing them on my way down. My depth meter read 170 feet when I reached the door below the second



KEY

Main map reproduced from Sheet 81327. Truk Islands Eastern Part published by the Defense Mapping Agency, Washington DC, 1981 based on Japanese surveys prior to 1942 and updated by surveys by the USS *Tanner* in 1968. Inset from Admiralty chart 2683.

1 *Shinkoku*
2 *Yamagiri*
3 *X 16 (Tonan Maru 3)*
4 *Kiyozumi*
5 *Hoyo*
6 *Kansho*
7 *X 10 (Daikichi ?)*
8 Submarine *I 169*
9 *Heian*
10 Harbor Tug
11 Fleet Tug
12 *Suzuki* Destroyer
13 *Fujisan*
14 *Nippo*
15 *Momokawa*
16 *Aikoku*
17 *Reiyo*
18 *Nagano*
19 *San Francisco*
20 *Shotan*
21 *Seiko*
22 *Hokuyo*
23 *Ojima*, Landing Craft, X8 debris
24 *Kikukawa*
25 *Hoki*
26 Fighter aircraft
27 Zero fighter
28 Zero Fighter
29 Emily Flying Boat
30 Betty Bomber
31 *Fujikawa*
32 *Unkai 6*
33 *Gosei*
34 *Rio de Janeiro*
35 *Amagisan*
36 *Sankisan (Yamakisan)*
37 *Hino 2*
38 Inter-Island Supply Vessel
39 Subchaser *(Minsei)*
40 *Taiho*



level of hatch cover beams. I stayed at the door for a symbolic minute of silence in honour of those who perished here. Mary positioned herself inside just to the right of the doorway, and directed the beam of her strong underwater light into the room. I did not use penetration lines; they would be too cumbersome. Instead I made sure that I went to the far end of the room and kept the bulkhead to my left shoulder all the time.

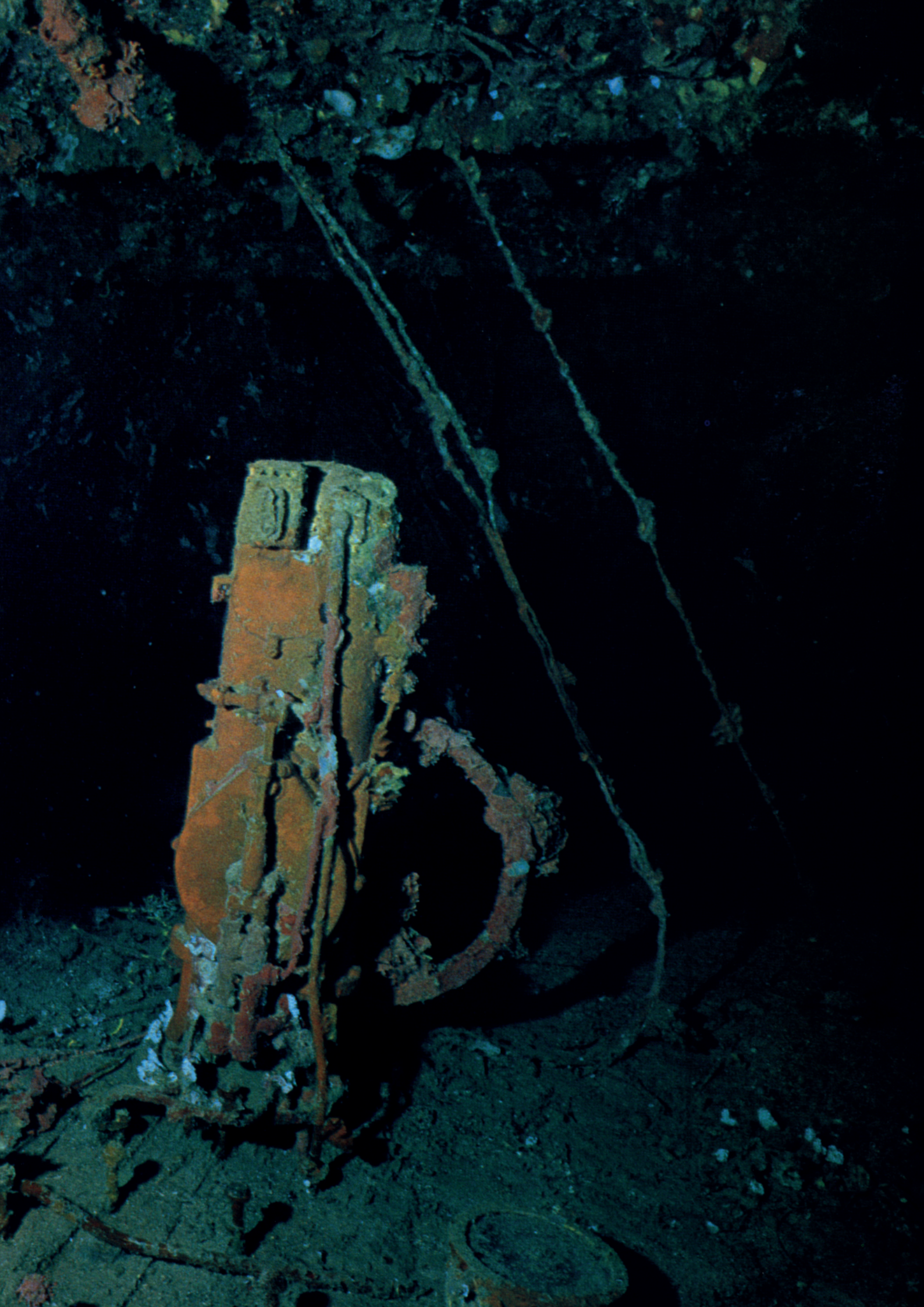
I had attained perfect buoyancy control, and now moved gingerly forward, suspended between the deck and the deckhead. There was total darkness, which was only pierced by the underwater light. The deck was covered with a very thick layer of decayed organic material. It was extremely fine sediment, brown in colour, and it billowed up at the slightest instigation. Any incautious movement with fins or hand was liable to stir up an instant brown-out that no light could penetrate — and that was something we had to avoid. Orientation would only be possible by touch. Very gingerly I kept my position while moving forward, taking a picture every few feet.

The blinding camera flash etched the outline of the room, and then it was back to the beam of the underwater light again. In the twilight I could make out the outline of a row of bunks at the far side of the hull, then there were two rows in the middle of the room and one more near the inside of the bulkhead. The brown sediment covered evenly spaced mounds under which dark blue, nearly black remnants of uniformly folded blankets could be seen. There were a few bones scattered about the room, and a few other objects, such as helmets and canteens.

It was not until I reached the forward bulkhead of the room that I could see the heap of bones. They were piled high almost up to the deckhead and extended across the width of the room. In the middle of this accumulation were the remains of a large rectangular table. At the forward bulkhead I could see a sink and a tilted shelf, with a solitary shoe. It was quite evident that this room had contained troops remaining in their quarters awaiting their turn to be shuttled ashore by the two Daihatsu landing craft that had taken off most of their number since the *Aikoku Maru* had arrived the previous day — on the very eve of the American attack on the island.

She had sailed from Japan carrying troops being transferred from Manchuria and Korea to reinforce the garrisons in the Marianas and other mandated islands in the central Pacific on the basis that Russia had not entered the war against Japan. She was one of a convoy protected by a number of escorts, one of the other ships in the convoy being the still larger and more magnificent former passenger liner, the *Yasukuni Maru*. The convoy's original destination, Wake Island, had to be bypassed because of an American air raid, and on the way to Truk the *Yasukuni Maru*, crammed with vital supplies and more than a thousand troops, was torpedoed literally at the island's doorstep. The *Aikoku Maru* had zig-zagged at high speed to Ponape, off-loaded some troops and equipment and rushed to Truk.

The *Aikoku Maru*, launched on April 25, 1940, was the third of three beautiful sister ships built for the Osaka Merchant Marine (Osaka Shosen Kaisha — OSK line), the other two being the *Gokoku Maru* and *Hokoko Maru*. They were fast passenger-freighter liners of just over 10,000 tons gross, 450 feet overall by just over 60 feet across, of excellent stability, driven by Mitsubishi/B&W diesels of almost 16,000 horsepower, with twin screws and capable of 21 knots. Their design incorporated strengthened decks and bulkheads to take heavy guns on their shelter decks, mount torpedo tubes and accomodate float planes. The *Aikoku Maru*'s



The gruesome contents of hold Number 4 revealed — note how the force of the explosion has bent the bulkhead outwards. As a direct result of Klaus Lindemann's discovery, the Japanese government retrieved the remains of 120 of their servicemen from the *Aikoku Maru* in 1984.

sisters had each made a run on the Japan-Africa route for which they had been intended, when their owners were obliged to switch them to operating between Japan and Manchuria.

Just prior to completion of fitting out, the *Aikoku Maru* was taken in hand by the Japanese Imperial Navy and converted, together with the *Hokoku Maru*, as a merchant raider. The two of them operated in the South Pacific and sank two ships, the *St Vincent* and the *Malama*. The return journey led through Truk and, after arriving in Japan, the ships were decommissioned as auxiliary cruisers and fitted out to be depot ships for submarines, though retaining most of their armament for raiding purposes. The Kobe shipyard installed two 14cm anti-aircraft guns, one each on the forecastle and the poop. Their old seaplanes made way for modern Rufes.

Their success in the Indian Ocean, where they were sent, was unspectacular — a few cargo ships falling prey to their submarines off the east coast of Africa and later in the Gulf of Bengal. For ease of operation in the Indian Ocean their base was shifted forward to Selatar, in the north of Singapore, and then up the Malayan peninsula to Penang. The *Aikoku Maru* and *Hokoku Maru* managed to bring in two ships, which were sent to Japan and commissioned into the Japanese merchant marine: the Dutch tanker *Genota* and the MV *Hauraki*.

By a strange twist of fate, the *Hauraki*, renamed the *Hoki Maru*, shared a similar end to her former captor, the *Aikoku Maru*; she was at Truk during the raid, a mere mile to the south of the *Aikoku Maru*, and an explosion ripped her foreships apart too. Built for the Union Steamship Company of New Zealand, she was the first ship to have been designed and built from the keel up as a diesel-propelled vessel by Wm. Denny & Bros of Dumbarton, Scotland, foreshadowing the lines which were to become famous as the 'Denny Look'. The *Genota*, incidentally, was sunk by the same American carrier-borne forces at Palau, just a few weeks afterwards.

Not surprisingly, the *Aikoku Maru* held a great deal of fascination for us — we approached dives on her gingerly, with awe, and great anticipation. The dives to her were deep, and typically we would have twenty minutes bottom time with a four and a fifteen minute decompression stop. All this was accomplished with one single tank of air.

Down in the ship, I had recorded the large room, and now I squeezed through between the deckhead and the mound of bones, taking great care not to touch either and to keep the inside bulkhead to my right shoulder, and turned inboard and moved along athwart ship. My light shone ahead, and all I could see was bent, torn and collapsed bulkheads. The large stair leading to the main deck was obliterated and all the bulkheads were bent towards me, towards the stern, by the force of the explosion that had raced through the doomed vessel.

The bulkhead fell away to my right and I followed it, making a right angle turn. Now I was swimming on the starboard side towards the stern, and the same scene of rows of bunk beds was to be seen as on the port. When I turned right again, I knew that I had rounded the third of four corners. I looked behind me and was satisfied that I had hardly stirred up any sediment. The slight brown fog came from the exhalation bubbles. As they ascended to the deckhead and raced to starboard, the wreck listed slightly: bubbles had the effect of loosening up remaining paint and the rust. Time and air would have easily permitted me to retrace my steps and return the same way as I had come. Depth was as projected, there was the calculated amount of air left, and I was well within the time frame. Everything was under control. But I knew that my mind was sluggish from the depth and nitrogen, and reaction could become unpredictable, so it was best to stick exactly to the memorised dive plan.

Exactly opposite, around the remnants of a table, there was again a large number of bones. A faint glow of light came from above, and my flashlight revealed a collapsed wooden stairwell. On a later exploratory dive I went up there and found myself in another stateroom arrangement, which opened up into the 'tween deck of number five hold. The steel door was blown out and flung halfway along the length of the hold. There were a few human remains there as well, as I later gathered from the photographic evidence.

I swam around the last corner and came back to the door I had entered from the other side. We ascended past the hatch cover beams and up the superstructure, which was left to explore at a later time, found our native guide to have loosened the anchor, and ascended along the anchor line to our first decompression stop. I switched off the strobe, secured the camera and hung everything from the line, whereupon they were promptly hauled up aboard.

There was not much air to spare in my tank, but we all managed to finish the dive without having to fall back on our emergency tanks which were hanging straight down from a line at 20 feet and 10 feet. It had been quite some dive.

OPERATION HAILSTORM REVISITED

Since Midway, the tide of war in the Pacific Ocean had turned inexorably in the United States' favour. At the beginning of 1944, in the south-west theatre commanded by General Douglas MacArthur, the naval forces stood poised to outflank the Japanese stronghold of Rabaul in New Britain, and MacArthur's forces were shortly to leapfrog in spectacular fashion up the north coast of New Guinea. In the central Pacific theatre, Operation Galvanic, the initial island assault of the drive westwards launched in November 1943 by the forces commanded by Admiral Chester W. Nimitz, had captured the Gilbert Island atolls of Tarawa and Makin *(see After the Battle No. 15)*.

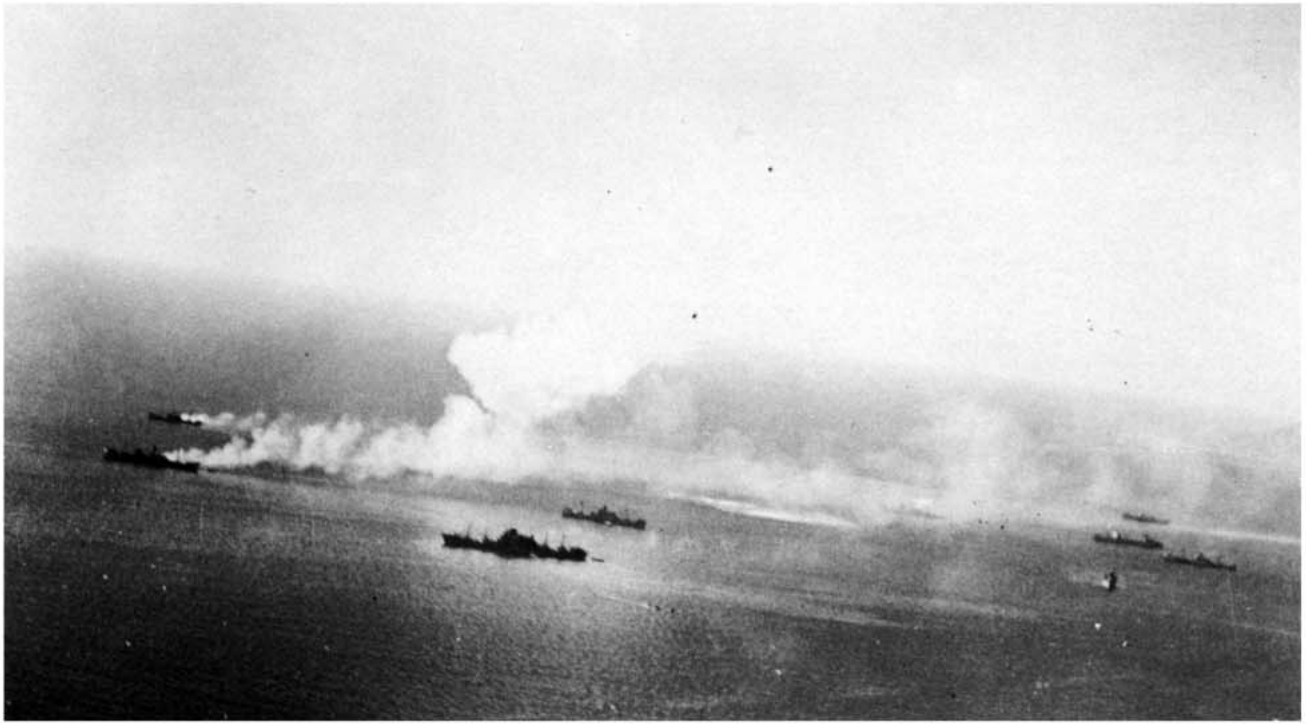
With vessels pouring out of the American shipyards — new carriers of the Essex and Independence classes; new battleships and heavy, light and anti-aircraft cruisers; and Fletcher class destroyers — the battle strength available to Nimitz was formidable, sustained by prodigious logistics. His next main objective were the Japanese mandated islands — the Marshalls, the Carolines and Marianas. Airfields on the Marianas islands of Guam, Saipan and Tinian would put B-29 bombers within range of Japan itself.

Operation Flintlock came next, in January-February 1944, to capture the Marshall Islands atoll of Kwajalein. The lessons of the bloody fighting for Tarawa had been well learned: after a pulverising three-day sea and air bombardment Kwajalein fell with only light casualties, while the occupation of the undefended Majuro Atoll provided a superb forward anchorage. The blasted atolls of Wotje, Maloelap *(see After the Battle No. 54)*, Mili and Jaluit were left to wither.

Some 360 miles north-west of Majuro lay Ewinetok Atoll; 700 miles west, Truk — Japan's 'Gibraltar of the East'. Plans for an invasion of Ewinetok — Operation Catchpole — went ahead rapidly; simultaneously, the naval base of Truk, with its airfields, was to be neutralised — Operation Hailstorm.

Truk's 'Gibraltar' reputation may not have been entirely deserved but, as the main forward base of the Japanese Fleet in the central Pacific and an important centre of air operations, it threatened any American advance westwards and was certainly a spider in the web. Operation Hailstorm was intended to safeguard the Ewinetok invasion set for February 17 and, if possible, to catch ships of the Combined Fleet at the base.

Truk Lagoon, a pear-shaped lagoon, about forty-eight miles wide and twenty-five miles long, is almost completely enclosed by a fringing reef with a few low-lying, coconut palm-studded islands on the rim. Six major islands of volcanic origin rise inside the lagoon, and all of them have high, conspicuous mountain peaks. There are three major passes (or channels), the North Pass, the Northeast and the South, where even very large ships could navigate. And very



The *Aikoku* is seen here in the foreground of this February 17, 1944 strike photograph, with a landing craft at her stern — she has yet to be sunk. Other ships here are the *Reiyo* (burning aft of her bridge); *Hokuyo* (obscured by smoke) the *San Francisco* and the *Seiko*, both undamaged as yet. All were sent to the bottom in the devastating attack.

large ships indeed came into, and went out of, Truk Lagoon. Battleships of the Imperial Japanese Combined Fleet, such as the *Musashi, Yamato, Nagato, Huso, Yamashiro* and the *Kongo* were to be seen at Truk. The mooring buoy of the flagship *Yamato* was placed in the water at a conspicuous spot with a great amount of fanfare. There was hardly a fleet carrier which did not put into Truk at one time or another. Also, many of the heavy and light cruisers with their characteristic tilted stacks went to their moorings there.

Fleet service facilities were quite limited, however, and there were no large docks where ships could tie up and discharge cargo. There was a tank farm of several 3,000-ton bunker oil tanks, a small floating dock, and the fleet repair ship *Asashi* was stationed at the Repair Fleet Anchorage. The geographical location was excellent and the lagoon offered sheltered waters. Warships sortied from Truk for the battle of the Coral Sea, and elements of the invasion forces departed for Midway — a destination cancelled after the sinking of the carrier strike force and the abandonment of the entire complex Midway operation for the annihilation of the American Fleet.

In short, Truk served as a staging post for the Japanese Fleet . . . up to the day when the US forces came in too close and took Majuro on January 31. After an overflight of a B-24 reconnaissance plane on February 4, 1944, the Imperial Japanese Navy could see the writing on the wall. The warships dispersed on February 10. Some of them went to Japan, the majority to Singapore; the rest, mainly fleet auxiliaries, steamed into Palau.

Apart from being a naval base, Truk also served as a major stepping stone in supplying the war front of the south. Planes were either flown there from the Empire or ferried by ship. There were airfields with main facilities on three islands within the lagoon, for fighters on Eten and Param, and bombers on Moen. Dublon and Moen each had a well built up seaplane base.

Truk had been one of Imperial Germany's colonial possessions in the Carolines, purchased from Spain. With no military opposition, the Japanese took them over at the outset of World War I, and were afterwards awarded a mandate by the League of Nations to administer them. In the late 1920s the Japanese Government decided to close all the mandated islands to outside eyes. Against the terms of the mandate, in the late 1930s Japan began to build naval facilities at Truk, and once war was declared the speed of reinforcement and the build-up of service facilities picked up demonstrably. Dublon, the main island under the Japanese, was a fairly bustling small town.

Large coastal defence guns were originally positioned on the low-lying reef islands, only to be later resited in tunnels blasted into the rocks of the mountain slopes of the larger islands. They can be seen on Moen and also Uman. Several batteries of twin 12cm anti-aircraft guns were placed on the main islands (including two on Dublon; two on Eten and one on Fefan) and scores of machine weapons near the airfields. Two Kaiten (suicide torpedo) stations were built on Fanamu and Yanagi. The passes, including the smaller ones, were heavily mined, and a minefield stretched for some distance near the North Pass. At the entrance to the South Pass an extensive network of hydrophones and other passive detection devices was installed to prevent submarines from getting in undetected. Radar installations could be found on the strategically placed islands and were upgraded with supplies by submarines for a while. The radar gave ample warning for all but the initial attack.

Elements of the 52nd Army Division had arrived at Truk in anticipation of an invasion. Few of their supplies and equipment were destined to reach them.

Diver framed in the brass reinforcing ring of the ship's wheel of the *Nagano Maru*, giving an idea of its original size, before the wood rotted away. Almost no organic material survives in the lagoon, having become food for its marine inhabitants.

This view of the attack shows the *Seiko*, evidently undamaged; the *Momokawa* listing; the *Hokuyo* undamaged; the *San Francisco* with a fire amidships and her funnel gone; the *Hoki* with bomb damage amidships, fires raging and funnelless; the *Nagano*, with the white hull, listing and sinking. The *Shotan*, damaged and on fire, points south-east; the *Akitsushima*, on the far right of the photo, has a fire aft and the only trace of the sunken *Aikoku* is an oil streak towards Dublon, on the left.

From Majuro on February 13-14 the big American carriers sailed west. Table-top models of Truk had been placed in the pilots' briefing rooms for the air strikes, and the composition of the attack force clearly reflected the pull that the base exerted on American thinking. Three task groups assembled under the Fifth Fleet's Task Force 58, under the tactical control of Rear Admiral Marc A. Mitscher, were assigned for the raid — Task Groups 58.1, 58.2 and 58.3 — while a fourth was to soften up Eniwetok for the assault troops. TG 58.1 and TG 58.2 included two fleet carriers and one light carrier apiece; TG 58.3 one fleet carrier and two light carriers. To engage the Japanese naval forces expected to be encountered in or around the base, a battle formation, Task Group 50.9, of two battleships, two heavy cruisers and four destroyers, under the command of the Fifth Fleet commander, Rear Admiral Raymond A. Spruance in the *New Jersey*, was to detach itself from TG 58.3 and sweep anti-clockwise round the atoll.

Zig-zagging to evade submarine attack, and adopting the usual tactics for shielding the carriers behind an inner screen of battleships and cruisers and an outer screen of destroyers, the formations made for an area about a hundred miles north-east of Truk. Having eluded Japanese search planes, the three groups were in mutually supportive positions off the island by the early hours of the 17th, ready to unleash the largest co-ordinated carrier attack yet seen.

Meanwhile, the day before, the Japanese had reverted to normal levels of alert, after maximum alert had been ordered on the 15th when one of the island's communications units had picked up freak radio transmissions from the carrier *Essex*, which had caused the search planes to be sent out. In the lagoon, all the major naval vessels having since departed, only elements of the Fourth Fleet remained. These and some thirty merchant vessels.

Although some Japanese fighters were airborne, others were only beginning to scramble — too late to put up any organised resistance — as the first aircraft from the carriers swept over the island at first light. Dogfights ensued, but the American Hellcat fighters swooped down onto the airfields, strafed parked aircraft, shot down planes in the process of taking off, and shot at anything that moved. Air supremacy had been established.

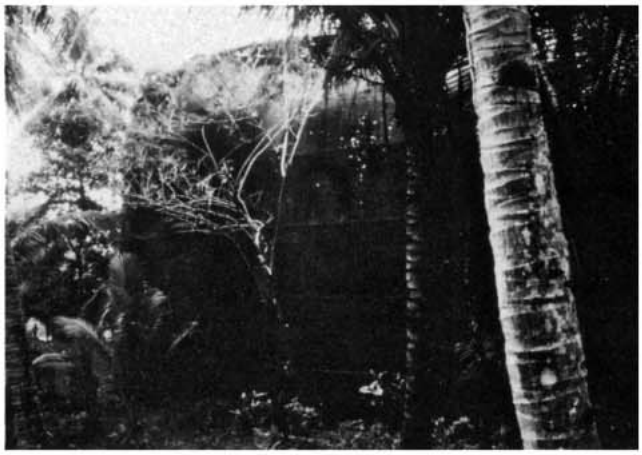
Wave after wave of air strikes followed the initial fighter sweeps on the first day: six each from the five fleet carriers, every two hours, flown by Dauntless and Hellcat dive bombers and Avenger torpedo bombers, with escorting Hellcats; an average of about thirty aircraft per strike. Target anchorages were allotted the groups but assignments were intended to materialise according to developments. In broad terms, ships were the major target (naval, then merchant), followed by aircraft installations and fleet service facilities.

Whether to arm the Avengers with bombs or torpedoes (one each stashed inside their portly bellies) was left to the discretion of group commanders, and torpedoes were only used to any large extent with the Avengers of TG 58.3 — more particularly the *Bunker Hill*. (In all but four strikes bombs were used in TG 58.2, and in all those of TG 58.1.) As usual, pilots were prone to let their enthusiasm get the better of them in making their claims — many a huge plume of water and smoke thrown up by their 500-pound and 1,000-pound bombs with short delay fuses being taken for a hit. Still, the pressure wave and shrapnel from a near miss could well cause damage and even spring plates. With torpedoes it was more clear cut, and the Avenger squadron pilots operating from the *Bunker Hill* chalked up some impressive hits.

From an early stage, a convoy that had been seen heading for the North Pass became a prime target and was subjected to heavy though somewhat inaccurate attack with bombs and torpedoes out at sea. This accumulation of ships comprised the training cruiser *Katori*, auxiliary cruiser *Akagi Maru* and destroyers *Nowake* and *Maikaze*. The first of them to be hit was the slower and less manoeuvrable *Akagi Maru*, and she went down fairly quickly after being hit by bombs and catching fire, taking with her many of the Japanese civilian population of Truk, who were being evacuated. After being missed many times, the *Katori* and the *Maikaze* were finally caught by bombs which started fierce fires and left the ships dead in the water.

As Spruance's battle formation approached, the bombing ceased and the burning wrecks were finished off by the battleships' secondary batteries and the 8-inch guns of the heavy cruisers. The Japanese destroyer *Nowake* had gone to pick up survivors from the *Akagi Maru*, but was soon forced to abandon the attempt as the action grew too hot. As she made off westwards at speed, the American ships were too busy concentrating on the *Katori* and the *Maikaze* to notice her slipping away on the flank. Forty shells came her way from the *Iowa*'s 16-inch main batteries and eighteen from the *New Jersey*'s (one of the triple guns of her two forward turrets failing to operate), but the *Nowake* escaped into the distance.

Meanwhile, inside the lagoon, there were two destroyers slipping out of the North Pass. Using the other sinking Japanese ships as cover, they escaped almost unmolested. A third destroyer, the *Fumizuki*, still under



Two of the oil storage tanks on Dublon Island as they are today. Hit by bombs during the American attack and set alight, they burned for several days; the heat was so intense that the steel tanks sagged under their own weight and eventually collapsed.

repair in the lagoon, was slowly filling with water from an already bomb-damaged bow. She had tried to get away, but settled in the middle of the lagoon after the water pressure caved in the internal bulkheads. Another destroyer, the *Tachikaze*, had been firmly grounded for the past week, with her bow on the reef of Kuopp Atoll, ajoining the south side of Truk, as a result of a bad navigational error. Her anti-aircraft guns fired at any passing planes, until, on the second day, she was bombed out of existence.

There was no respite for the defenders at Truk. The last wave of planes dropped bombs with long delay fuses which went off at irregular intervals all through the night. For the first time in the Pacific War, a torpedo squadron flew a radar-controlled night bombing mission between 2.00 a.m. and 6.00 a.m. The planes returned with only one loss to their carrier *Enterprise*.

That night the task force suffered the sole casualty of its surface fleet, when the carrier *Intrepid* of TG 58.2 was damaged by a torpedo launched by a Betty bomber and had to be sent back to Majuro escorted by a light carrier, a heavy cruiser and four destroyers.

At 7.50 a.m. on the second day the operation was called off for lack of targets. Apart from their initial fighter sweeps, the four remaining fleet carriers launched a total of ten strikes that morning — *Yorktown* and *Essex* two each; *Enterprise* and *Bunker Hill* three each, with the last of those flown from the *Bunker Hill* being recalled before an attack could be made. A decision not to bomb a group of oil storage bunkers on Dublon until the end of the raid proved to be sound, as the dense smoke that billowed from the destroyed facilities obscured two of the four anchorages.

The second day saw the carnage on the *Oite*. Prior to the raid she had left Truk for Japan, escorting the light cruiser *Agano*, both ships being due for a refit. Some 200 miles out, on February 16, the *Agano* was torpedoed and had to be abandoned. The *Oite* had picked up about 800 men, including the captain, and was heading for the Marianas when next day she was ordered back to Truk at speed to help. Arriving on the morning of the 18th, she came in for heavy and continuous strafing and, despite taking evasive action as she sped across the lagoon from the North Pass, fell victim to a co-ordinated torpedo attack by Avengers. She broke in two and was gone, taking down almost all the rescued crew of the *Agano* and her own complement of 150.

Operation Hailstorm had caught a few light naval forces but accounted for more than thirty merchant vessels. During the attack, about three-quarters of the Japanese aircraft had been wiped out, almost every ship sunk, and damage inflicted on shore installations.

Eniwetok fell. Truk was bypassed and the decision taken not to invade. The Marianas operation was set for mid-June, and on April 30–May 1, when ships of the Fifth Fleet returned from supporting operations in the south-west theatre, Truk was raided again. Few ships were there, and the air strikes concentrated on shore-based targets, resulting in widespread damage. By then B-24 bombing raids had started, and later B-29 raids were to cause both disruption and frustration as the bombers flew too high for either the few remaining patched-up Japanese aircraft or the guns of the anti-aircraft defences to reach them. Increasingly isolated, its strategic value negated, Truk's 20,000-man garrison was left 'neutralised', short of food and supplies, as the war spread across the Pacific . . . a parting shot being delivered by carrier aircraft of the Royal Navy on June 16, 1945.

Beneath the waters of Truk, the ships lay on the bottom, a few with their masts protruding above the surface, the majority having slid down without a trace — except, that is, for a slight discoloration of the lagoon bed noticed by a local diver, Kimino Aisek, from a boat one day in the 1960s which led to his discovering the *Yamagiri Maru*. More wrecks were found, including the sensational discovery of the submarine *I-169*, whilst Truk became an attraction for divers the world over.

My own opportunity to visit the island came in the late 1970s when I was working in Singapore. By taking an air flight for a holiday in my native Germany 'the other way round', I was able to stop over for two weeks and dive the wrecks with my wife, Mary. The dives were fascinating, but by the end of the first week the guides had run out of wrecks to show us. This was surprising, as we had heard that there were more than thirty ships sunk in the lagoon. The excuse was that, well, yes, there were a few more, but they were too deep; as for the others, they just did not know.

We returned the following year, diving this time with the incomparable Kimino Aisek, when I found the remains of the soldiers inside the *Aikoki Maru*. With his knowledge and expertise, he was able to show us more and by the time we left we had visited all the known wrecks. The question that continued to intrigue me was where — indeed, what — were the others?

Intensive research at the US National

The underwater world of Truk. *Left:* **A Type 95 Ha-Go light battle tank lying on the port deck of the *San Francisco Maru*.** *Right:* **There are three of these tanks on the ship — note the bridge superstructure in the background.**

Left: **One of a pair of Isuzu T×40 2-ton 4×2 tanker trucks still stored in the second hold of the *San Francisco Maru*. The Isuzu company was named after the sacred river that flowed through the grounds of the Grand Shrine of Ise.** *Right:* **Caseloads of artillery rounds are still neatly stacked as if ready for battle on the 'tween deck below — amazingly so, bearing in mind the ship's violent demise and descent to the bottom over forty years ago.**

Archives and the Navy Operational Archives in Washington revealed that at least twelve other vessels were reported as having been sunk. All but a few of these merchant ships rode at anchor during Operation Hailstorm as could clearly be seen from the attack photographs that I unearthed during my frequent visits to the Archives. With the assistance of the most helpful staff there, I had finally managed to obtain every single Aircraft Action Report of every unit that took part in the operation. It was quite a stack of paper. Soon the sorting and filing became just too much and I resorted to the help of a computer. It was an interesting game to cross-reference the information, and, after months of work, the data began to tell its own story. Meanwhile, I also had the good fortune to get in touch with a Japanese expert on the subject of the pre-war merchant marine. Slowly, in piecing the facts together, one gap after another was filled.

To cut a long story short, we paid seven visits all told to Truk, staying on average for a month, and every time there was something new to be discovered. Most of the wrecks we found with the aid of a small depth finder on our fourth visit. The last two occasions each netted a large freighter — vessels which I thought must have disintegrated. In fact, they were very much intact, and obviously the dive-bomber pilots had erred on the optimistic side in reporting their hits. Taking our time, and planning the vessels' exploration minutely, we were able to document them thoroughly with photographs and with sketches and notes made underwater.

One of the most interesting aspects of exploring and documenting the sunken ships was that of finding out where and how a vessel had been damaged, whether there was a fire raging, or what other fate had befallen it. It was bordering on detective work to figure that out. In fact, once we had anchored on a new wreck I would always 'make the scenic tour'; that is, swim around the circumference of the hull, look at the superstructure, the general configuration of the ship, and assess the damage, regardless of how deep the wreck was. On some ships this was quite a hairy enterprise, as 180 feet is a depth at which one has to have one's wits together and has to be very economical with effort, time and air.

Take for example the *San Francisco Maru*. She was an old three-castle freighter of about 6,000 tons, built shortly after the First World War, one of the famous Hog Islanders, predecessors of the Liberty ships of the Second. She had been pressed into service after serving as a stock boat, and had carried a fascinating cargo. Most divers descend on the *San Francisco Maru* to take some quick photographs of the three Type 95 Ha-Go light battle tanks, but they miss many other facets of this interesting wreck. Firstly, why are there only three tanks as deck cargo? This certainly would have resulted in an undesirable trim of the ship and would have gone against the grain of any sailor worth his salt. There must be a fourth tank.

There isn't a fourth tank. The fourth heavy vehicle was a steam roller, which slipped off the deck and fell onto the sea bed. It rests now further aft of the bridge, at the edge of visibility, at about 220 feet. At the second hold all hatch cover beams are in place. That is probably the reason why nobody looks below them. Standing secured on the hatch cover beams on the deck below are two tanker trucks. Their big containers have been crushed by the ambient water pressure, and the bodywork, although looking fairly good, is thinned by rust. The high radiators and the manufacturer's emblem can be seen quite clearly, and one feels like being in a time warp, taken back into the 1930s. On the 'tween decks many stacked drums can be found — aviation gasoline. Small pin-sized corrosion holes liberate some of the fuel, which may burn the unwary diver.

The 'tween deck below is stacked from deck to deckhead with boxes of artillery shells. Large radial aircraft engines, a large number of aircraft tail wheel assemblies and a large cluster of 50kg bombs, standing on their noses on the mud, can be seen as well. In some awe, one goes on to explore the number one hold, which looks like a minefield. There are rows of anti-invasion mines placed on the hatch cover beams, and forward of them are the detonators for the mines, and many rolls of barbed wire. It is impossible to peek into the lower 'tween decks of this hold, but there is a good chance that they are stacked high with shells and other high-explosives as well.

Approaching the high forecastle, the first of the large spare admiralty anchors can be seen bolted to the forecastle bulkhead. The second is bolted on the deck, port and aft of the old-fashioned flat trajectory bow gun. A delightful antique piece of artillery this 10cm gun is, and a prime photographic subject.

Hardly anybody bothers to look over the port bow, to see the anchor chain. The port anchor is out. The chain leads straight to the bottom and forms a small heap underneath the hawsepipe. From this heap it runs back astern for several yards, firstly in a gentle sweep away from the hull and then in a curve back towards it, turns in a curve outwards and forwards, first away from the hull, then coming closer until it is again almost opposite the heap forward, and takes off in a straight line to the north-east. This neatly laid out figure on the sea bed resembles a bulbous, slightly irregular 'U'. It is an indication of the way the *San Francisco Maru* sank.

The ship was anchored with a single anchor, against the north-easterly force four trade wind. She must have sustained major damage aft and sunk quickly by the stern, which hit the bottom at a depth of about 220 feet. The *San Francisco Maru* is 385 feet long. The ship thus formed a steep angle in the water (and the deck cargo began to slide). The wind pushed the foreship on the now slack anchor chain slightly to starboard; that is, east. This is when the forward running sweep was created. It started at the straight, laid-out anchor chain and then moved in a slight curve towards the east. When the stern hit the bottom, the slight drift to starboard continued, but immediately the foreship began to submerge. The wind could not push the small part of the protruding foreship further. As the sinking foreship approached the bottom, it obviously did so with the motion of a pendulum, in an arc, pivoting on the stern, consequently laying down the chain in an orderly fashion. The laying down of the anchor chain in this way can be stunningly reproduced by taking a pencil with a fine chain tied to one end, and resting the other end of the pencil on a table top — simulating the ship having sunk stern first; then by slowly lowering the end of the pencil to which the chain is tied — simulating the foreship going down and the small pivoting of the foreship by the wind.

One would expect therefore to find some major damage at the stern. On the way aft during the dive one passes the funnel,

A cache of sea mines stored on the hatch cover beams of Number 1 hold, with their detonators stored separately, on the left of the picture.

completely flattened, torn off and flung forward across the midship hold. The fourth hold contains two more trucks parked on the second deck hatch cover beams, and fully stacked medium calibre rounds in the 'tween decks. The last hold must have contained a lot of torpedoes. The wisdom of keeping the warheads apart from them in transit spared the *San Francisco Maru* from a still more violent end.

She sustained severe damage from a very close bomb miss to port between number five hold and the poop. The shell plating is ripped open for well over 15 feet, and a break in the hull extends from the keel to the sheerstrake. The deck plating is ripped and the adjoining plates are buckled. The deck is blown upwards by several feet where it meets the poop bulkhead. The poop bulkhead at the aft end of the hold is folded back almost diagonally and ripped to port. The damage extends to the starboard side. A few of the shell plates just across from the severe damage to port are missing and some are crumbled. Significantly, the fragments of the plates to starboard all point outwards, whereas to port they point inwards. As the *San Francisco Maru* went down, her boiler exploded. The large hole can be seen on the port side midships. The aft part of the superstructure shows damage by fire.

It is indeed a wonder that the *San Francisco Maru* did not blow sky high with such damage and so much ammunition on board. On the other hand, the gunpowder used by the Japanese, evidently picric acid, is very stable and generally cannot be set off by a shock.

The *San Francisco Maru* serves as an example of the kind of investigation I made of the ships. Naturally each one of them had its own story to tell, and the story came to life once the vessel was found, 'visited', and documented; or on land, when the computer responded to questions such as: Which ship was attacked when and by whom, sustaining damage aft, was anchored at the Sixth Fleet Anchorage, and went down stern first?

American post-raid Aircraft Action Reports always held a particular fascination for me, whereby one could read at first-hand of incidents in which the pilots were involved — such as of 'Lieutenant so-and-so having burnt a Zero just as it became airborne at the Param field', and his description of how 'the plane burst in a ball of fire, cartwheeled on the water and broke up'. One day, sitting out our specified Surface Interval Time, I suggested taking the boat to Param and looking around for the wreckage of that plane, just for fun, while we snorkeled. I was swimming a straight path, away from land, along an imaginary line corresponding to the end of the former runaway, when I suddenly saw a few shadows on the bottom at 60 feet. Holding my breath, I descended and saw three major pieces of a small Japanese fighter. One was the engine, another a large piece of the fuselage with one wing attached, and the other the second wing with a long, narrow piece of the aluminium skin of the fuselage. The pieces of aluminium were reasonably clean; evidently coral and other living matter do not settle well on that metal.

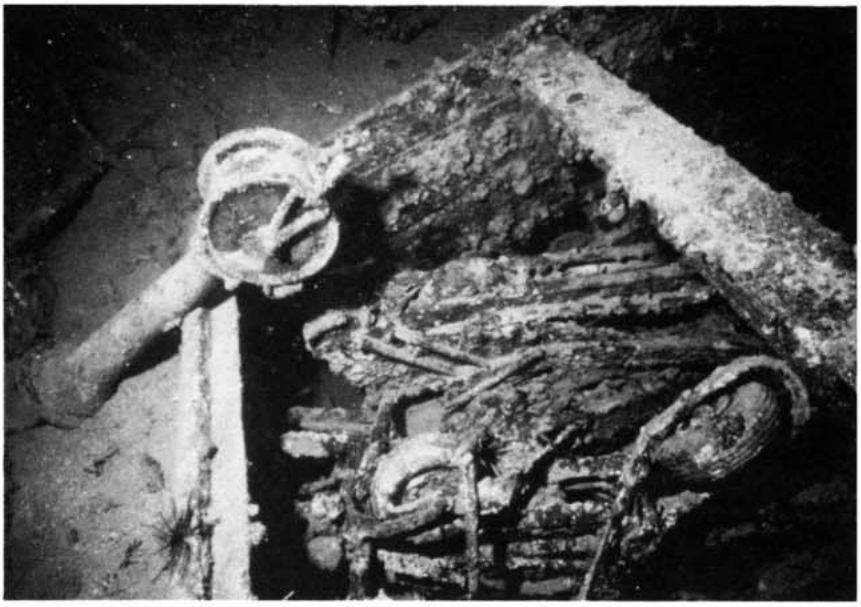
Many ships are very much overgrown by hard and soft coral. The *Shinkoku Maru*, a 10,000-ton auxiliary fleet oiler, for instance, has become a living reef. Its large bow gun is hardly recognisable and parts of the decks and the superstructure are almost totally overgrown by a luxuriant and brightly coloured soft coral and many forms of stone coral. In fact Truk is a biological minilab.

Coral growth can of course be measured, knowing when the ships went down, though it would be deceptive to assume any hard and fast pattern. Take for instance the *Kiyozumi Maru*, an auxiliary cruiser which was at Truk undergoing major repairs after being torpedoed — all clearly visible in exploring the sunken vessel. Devastated during the raid by a number of bombs and by one of the Avengers' torpedoes which entered a forward hold, she has almost no coral growth, but is overgrown by large meadows of calcerous algae.

The *Fujikawa Maru* is probably one of the finest and certainly the most popular and accessible of the wrecks at Truk. She is a six-hold silk carrier and a motor vessel. In her forward holds are a variety of planes in all states of assembly. There is very little coral growth, despite the fact that she rests at an ideal depth. The wreck offers a study in miniature of the poisonous effects of copper, for on the bridge a large number of spent machine gun cartridges are to be found next to a weapon which must have fired for hours against attacking planes. From the heap of copper cartridges one can see the large cone of zero growth on the deck, as the prevailing water current carries the toxic copper ions along.

The wreck offers more than just the fascinating holds, engine room and cabins. It also shows how the Japanese repaired the ship after a torpedo hit the engine room, and how they straightened her out after she was bent crooked in that disaster. And finally, the *Fujikawa Maru* provides an illustration of the effect of a torpedo compared with a bomb. The clean triangular hole made by the torpedo that entered number four hold is large enough to swim through, and it is quite different from the destruction caused by a bomb. Both masts once broke the surface of the water. But in 1983, after thirty-nine years, the forward mast just bent one quiet day and broke off with a resounding underwater rumble.

Other wrecks are not ships any more. They are halves of ships, torn apart by terrific explosions. And here again, the experienced observer will note the difference between an explosion of high-octane aviation gasoline and ammunition. There are even less than halves too. The *Kikukawa Maru* is scarcely a third — boiler, turbine, and debris were scattered over a wide area when the ship was blown into several bungalow-sized pieces, and the salvage ships helping to put out the fire in the hold went down with her.



On the 'tween deck of the *San Francisco Maru*, by the second hold, can be seen this unusual selection of aircraft tailwheels, part of her cargo of aeroplane spares. The engine telegraph has fallen down from the bridge above.

THE ATTACKING FORCES

FIFTH FLEET	Rear Admiral (Promotion to Admiral backdated to 5.2.44)		Raymond A. Spruance
TASK FORCE 58	Rear Admiral		Marc. A. Mitscher

Code	Unit Name	Flag		Commander
TASK GROUP 58.1				
CV	Enterprise	FF	Rear Admiral	J. W. Reeves, jr
CV	Yorktown	FFF	Rear Admiral	Marc A. Mitscher
CVL	Belleau Wood			
CL	Santa Fe	F	Rear Admiral	L. T. Du Bose
CL	Biloxi			
CL	Mobile			
CLAA	Oakland			
DD	C. K Bronson (f), Cotton, Dortch, Gatling, Healey, Cogswell (f), Caperton, Ingersoll, Knapp.			
TASK GROUP 58.2				
CV	Essex	FF	Rear Admiral	A. E. Montgomery
CV +	Intrepid			
CVL +	Cabot			
CA +	San Francisco	F	Rear Admiral	L. J. Wiltse
CA +	Wichita			
CA	Baltimore			
CLAA	San Diego			
DD +	Owen (f), Stempel, The Sullivans, Stephen Potter, Hickox (f), Hunt, Lewis Hancock, Stack.			
TASK GROUP 58.3				
CV	Bunker Hill	FF	Rear Admiral	Frederick C. Sherman
CVL	Monterey			
CVL	Cowpens			
BB *	New Jersey	FFFF	Admiral	Raymond A. Spruance
BB *	Iowa			
BB	Massachusetts			
BB	North Carolina	F	Rear Admiral	W. A. Lee, jr
BB	South Dakota			
BB	Alabama			
CA *	Minneapolis	F	Rear Admiral	Giffen
CA *	New Orleans			
DD	* Izard, *Charette, *Burns, *Bradford,			
DD	Brown, Cowell, Conner, Bell			
DD	Lang, Sterett, Wilson			

* Ships marked with an asterisk were detached to form Task Group 50.9

\+ Ships marked with a plus sign were detached from Task Group 58.2 after Intrepid was damaged, and formed Task Unit 58.2.4. The rest of Task Group 58.2 reported to Task Group 58.1.

Nevertheless, most of the wrecks at Truk are not so devastated as those at Rabaul, which were hit by the heavier bombs of land-based aircraft.

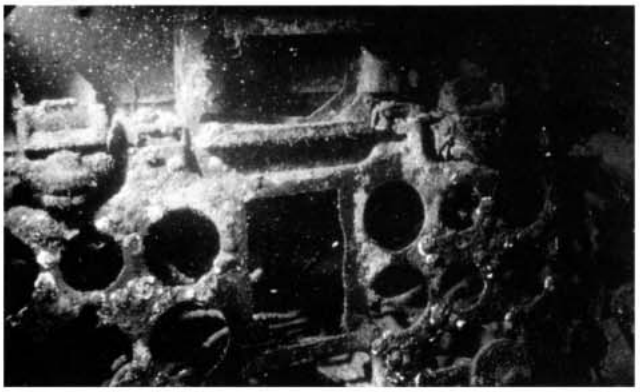
After more than forty years, Truk's wrecks have held up remarkably well. One thing is immediately apparent: almost all organic material has decomposed. In the superstructure, the partitions between cabins were made of marine plywood. It has long gone, and there is generally one large space now where the cabins were. Only the engine room casing divides the decks of the superstructure of the simpler cargo ships.

Many of the ships were rather old when they sank. The oldest, the *Unkai Maru VI*, was built in 1905. It is in better shape than some of those built directly before or during the war, when it can be seen that the bare minimum requirements were met regarding plate thickness and basic shipbuilding.

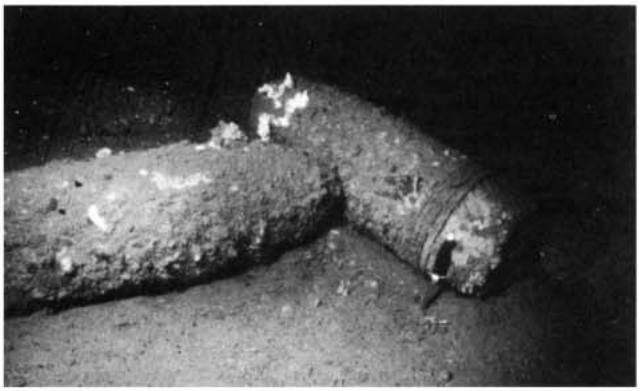
Basically, the hull and structural elements of the ships are quite sound and are not really in danger of collapse yet, but it is wisest to let caution be the better part of valour. Sometimes the metal may have been weakened considerably by fire. One day, when I was swimming at about 150 feet and was passing underneath the bridge of the *Nagano Maru*, about five feet above the boat deck, I suddenly felt a light pressure on the back of my head and a considerable force pressing me down. I was a bit surprised and turned my head around to see that a ten-foot segment of the bridge railguard had loosened and fallen onto me. I put my chin to my chest and let the metal railing fall free from me, and it crashed onto the boat deck. But this was really the only time when something unexpected happened, and to this day I don't know why it broke off at the very moment I passed underneath. Maybe it was corroded through and just the slight vibration of the bubbles and my swimming tilted it off balance.

If a ship had not been badly damaged, the masts and funnel may still be standing, and railguards are still in place. Just all wood and paint is gone. Many times we saw a large pile of magnificent serving platters and tableware undamaged in a heap, the cupboard in which they were stored having decayed completely.

The same state of preservation may be true of the cargo. If it was ammunition it generally must be considered live. Local fishermen have since hauled up shells and mines and used them to dynamite for fish. The packing material is gone in most, but not all, cases. Also, when looking at wood and wondering how it has withstood the action of sea water and organisms, it can be difficult to tell in what condition it was, or was left, when the ship sank. Tropical hardwood, such as teak, can be seen for instance on the main deck of the *Heian Maru*, where fire did not consume it. In the *Amagisan* we found slabs of wood intact in one of the holds.



The empty instrument panel of a dismantled Zero fighter sitting in the hold of the *Fujikawa Maru*. There are several aircraft in the hold, all in various stages of completion.



Several of the 460mm artillery shells within hold Number 4 of the *Yamagiri Maru* completely dwarf the diver's knife placed in front of the right-hand shell for comparison.

Deck cargo on the starboard aft side of the *Nippo Maru* consists of these three light anti-tank guns.

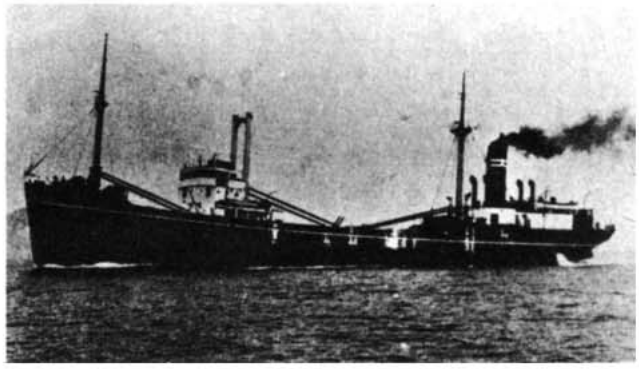
Exploring the aft hold of the *Hoki Maru* — note the remains of a truck behind the diver.

THE WRECKS

Code	Name	Tons	Date sunk	Damage	Depth**	Location
Warships						
CL	Katori	5890	17 2 44	Bombs, Gunfire	Abyssal	Outside Lagoon
CL	Naka	5195	17 2 44	Bombs, Torpedo	Abyssal	Outside Lagoon
DD	Maikaze	2033	17 2 44	Bombs	Abyssal	Outside Lagoon
DD	Tachikaze	1215	18 2 44	Bombs	Abyssal	Outside Lagoon
DD	Fumizuki	1313	18 2 44	Bomb	Unknown	Inside Lagoon
DD	Oite	1270	18 2 44	Torpedo	240ft	Inside Lagoon
DE	Sozuki	770	— 44	Unknown	60ft	Repair Fleet Anchorage
SB	I-169	1785	4 4 44	Marine Disaster	125ft	Combined Fleet Anchorage
ASC	Ku 29	440	17 2 44	Strafing	80ft	Sixth Fleet Anchorage
ASC	Ku 24	440	17 2 44	Unknown	Unknown	
Merchant vessels and fleet auxiliaries (all bearing the suffix Maru) and others						
AK	Shinwa	5784	17 2 44	Bombs	Abyssal	Outside Lagoon
AK	Zuikai	2700	17 2 44	Bombs	Abyssal	Outside Lagoon
AC/AP	Akagi	7389	17 2 44	Bombs	Abyssal	Outside Lagoon
AC/AP	Aikoku	10438	17 2 44	Plane Crash, Ammo. Expl.	230ft	Fourth Fleet Anchorage
AP	Amagisan	7621	17 2 44	Torpedo, Bomb	150–190ft	Sixth Fleet Anchorage
AK *	Daikichi	1999	18 2 44	Bomb	90ft	Repair Fleet Anchorage
AK	Fujikawa	6938	17 2 44	Torpedo	110ft	Sixth Fleet Anchorage
AO	Fujisan	9524	18 2 44	Bomb	200–230ft	Combined Fleet Anchorage
AK	Gosei	1931	17 2 44	Torpedo	40–120ft	Sixth Fleet Anchorage
AK	Hanakawa	4793	18 2 44	Torpedo	80–110ft	Off Tol Island
AP	Heian	11616	18 2 44	Torpedo	110ft	Repair Fleet Anchorage, off Dublon Island
AK	Hino 2	999	1 5 44	Bombs	30–70ft	Sixth Fleet Anchorage
AK	Hoki	7112	17 2 44	Bomb, Gasoline Expl.	150ft	Fourth Fleet Anchorage
AK	Hokuyo	4217	17 2 44	Bomb	200ft	Fourth Fleet Anchorage
AO	Hoyo	8629	17 2 44	Bombs	30–110ft	Repair Fleet Anchorage
AO	Supply Vessel		1 5 44	Bomb	70ft	Sixth Fleet Anchorage
AK *	Kansho	4861	17 2 44	Bomb	130ft	Repair Fleet Anchorage
AK *	Kikukawa	3833	7 10 43	Marine Disaster, Expl.	110ft	Fourth Fleet Anchorage
AC/AK	Kiyozumi	6983	17 2 44	Bombs	100ft	Repair Fleet Anchorage
AK *	Momokawa	3829	18 2 44	Bomb	140ft	Fourth Fleet Anchorage
AK *	Nagaono	3810	17 2 44	Bomb	220ft	Fourth Fleet Anchorage
AK *	Nippo	3763	17 2 44	Bomb	160ft	Fourth Fleet Anchorage
AX *	Ojima	800	7 10 43	Marine Disaster	80–130ft	Fourth Fleet Anchorage
AK *	Reiyo	5445	17 2 44	Bomb	220ft	Fourth Fleet Anchorage
AP	Rio de Janeiro	9627	17 2 44	Bomb, Ammo Expl.	130ft	Sixth Fleet Anchorage
AK	San Francisco	5864	17 2 44	Bomb	200ft	Fourth Fleet Anchorage
AK	Sankisan	4776	17 2 44	Gasoline Explosion	80–150ft	Sixth Fleet Anchorage
AK	Seiko	5386	17 2 44	Bomb	180ft	Fourth Fleet Anchorage
AO	Shinkoku	10020	17 2 44	Torpedo/Bomb	125ft	Combined Fleet Anchorage
AK *	Shotan	1999	17 2 44	Bomb	180ft	Fourth Fleet Anchorage
AK	Taiho	2829	17 2 44	Bomb, Gasoline Expl.	145ft	Sixth Fleet Anchorage
AW (*)	Tonan 3	19209	17 2 44	Bombs	110ft	Repair Fleet Anchorage (salv.)
AK *	Unkai 6	3188	17 2 44	Bomb	140ft	Sixth Fleet Anchorage
AK	Yamagiri	6439	17 2 44	Bombs	110ft	Combined Fleet Anchorage
AK (*)	Yubae	3217	17 2 44	Bomb	120ft	Sixth Fleet Anchorage

* Ships marked with an asterisk were found by author
** Depth to the bottom

Top and above: **Two views of the coral encrusted bow gun of the *Hino Maru 2*, lying in very shallow water. The *Hino Maru 2* was sunk by bombs on May 1, 1944 subsequent to Operation Hailstorm. By knowing exactly when the ships sank, the rate of growth of coral, which is evident on all the wrecks, to varying degrees, can be clearly determined and studied with a great degree of accuracy.**



Above: **The *Gosei Maru*, a 1,931-tonner sunk on February 17, 1944 during Operation Hailstorm.** *Right:* **Stern view of the hull of the ship today showing detail of her propeller and rudder. The visibility is good as she lies at a shallow depth in the lagoon, just off Uman Island.**

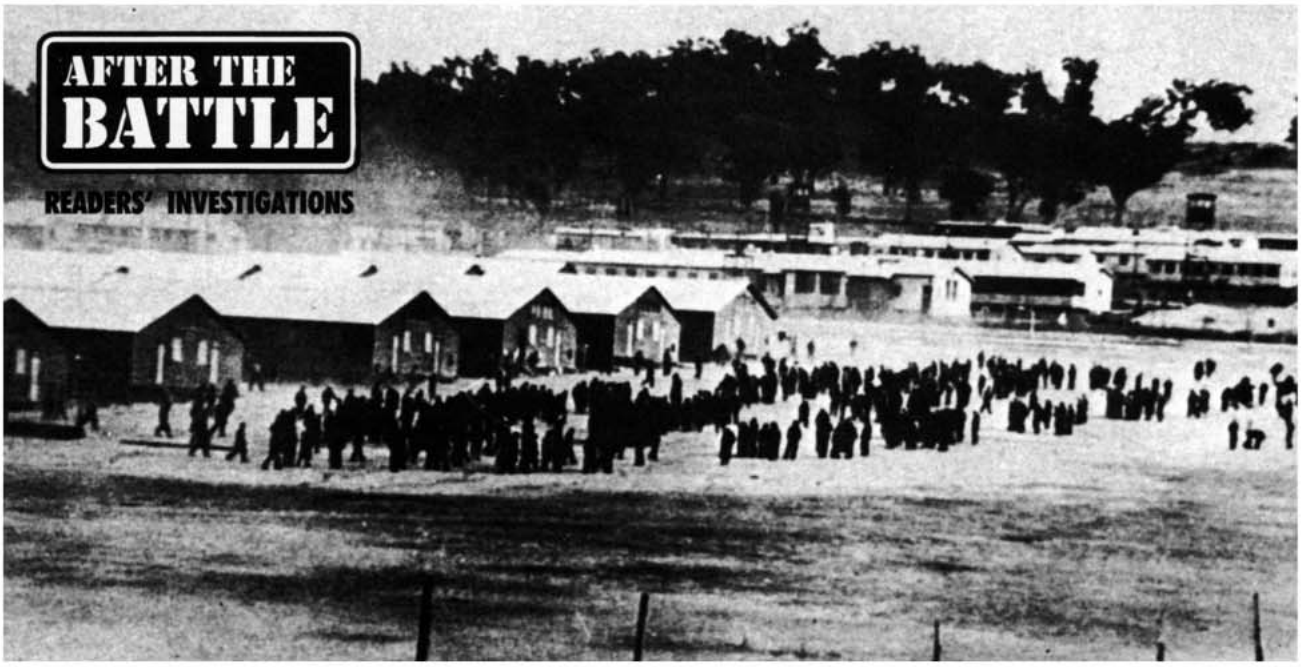
On the *Sankisan Maru*, the bodywork of a truck standing exposed on deck completely dissolved between 1960 and 1975, whereas the trucks and cars inside the *Hoki Maru* remained in almost 'perfect' condition.

Examination of the cargo is of great interest. It is mind-boggling to see a large number of perfectly intact 20-gallon glass jars, acid jars undoubtedly, in a hold with a large hole blown in it by a bomb which just missed the ship. Probably the only place in the world where one can see the 46cm shells, weighing more than one ton, for the main artillery of the *Yamato-Musashi* is in the number four hold of the *Yamagiri Maru*. There are large, sinister looking coastal defence guns inside the *Rio de Janeiro Maru*, placed on top of a cargo of coal. In the dark narrow recesses of the lower 'tween deck of the *Sankisan Maru* are strange gliders with a joy stick. Their bodywork, made of plywood and painted, is only held together by the paint; a probing finger goes through it with no resistance. By getting down to the lowest 'tween deck of the *Sankisan* we once found a large heap of plum pits; the moment I touched one it completely fell apart.

All the deeper wrecks rest on an even keel, but unfortunately almost all the shallower ones lie on their side. The *Heian Maru* would have been a pleasure to dive on if she had been upright, but she lies on her port side, like the *Rio de Janeiro Maru*. A notable exception is the *Sankisan Maru*, but anybody going aft beyond the bridge will find out why: the mid and aftship is a tangled mess, blown apart by a gasoline explosion. The *Unkai Maru VI*, too, is upright and not too deep. Ships such as the *Hoyo Maru* and *Tonan Maru III*, the latter having been salvaged after the war, capsized.

If you dive, or are fortunate enough to be able to take up diving, the wrecks beneath the waters of Truk present a sufficiently rewarding prospect as to make a journey to the island to explore them a fascinating venture. They are both accessible enough for the tyro and enough of a challenge for the experienced — and there is certainly no shortage of them!

Klaus Lindemann is the author of the book 'Hailstorm over Truk Lagoon', an indispensable guide to exploring the wrecks and containing full details of the raid, published by Maruzen Asia Ltd, Block 7, Seventh Storey, Ayer Rajah Industrial Estate, Singapore 0513.



THE MASS ESCAPE FROM COWRA

BY JOHN A. WILLIAMS

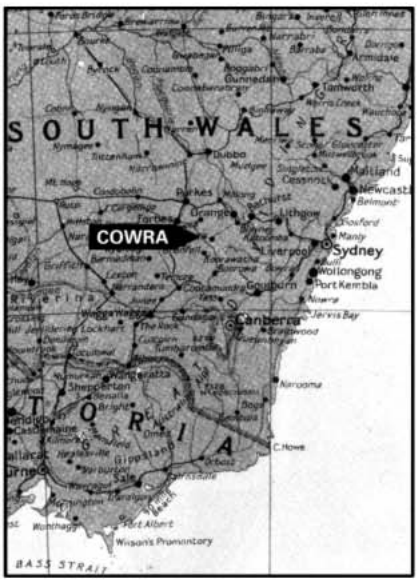
On Saturday, August 5, 1944 there occurred the largest escape ever in the history of the British Empire. It happened in a small New South Wales country town which borders on the Lachlan River, 227 miles south-west of Sydney, Australia. This small town's name is Cowra — the word being derived from the aboriginal word meaning 'the rocks', which is probably connected with the amount of rocky granite outcrops that occur throughout the town and the nearby hillsides.

In 1941 the Australian Army decided to create a prisoner-of-war camp at Cowra which was designated PoW Camp No. 12. The camp was divided into four, seventeen-acre camps each designed to hold approximately 1,000 prisoners of war. The camp was divided through the centre by what was known as the Broadway. This consisted of a strip 50 yards wide and 750 yards long which separated Camps B and C on the eastern side and Camps A and D which lay to the west. Camps A and B were separated from Camps C and D in the south by an area of no man's land 10 yards wide and approximately 350 yards long, fenced with barbed wire on both sides.

The entrance into the camp was at the southern end of the Broadway, and was guarded by two watch towers and two sentry boxes. This was the only way in or out of all four camps. Around the edge of each camp was a perimeter fence consisting of three separate barbed wire fences approximately 30 feet apart with the spaces in between filled with densely tangled barbed wire mesh approximately 4 to 6 feet high.

The responsibility for guarding the camp was entrusted to the 22nd Australian Garrison Battalion which consisted mainly of those too old for active service, many of whom had seen service in the First World War. Others were younger men who had some form of disability which restricted them from service overseas.

The first prisoners to arrive were Italians captured in the Middle East. The Italians by and large were fairly happy to be PoWs and the co-operation between them and the guards led to a fairly relaxed and easy-going



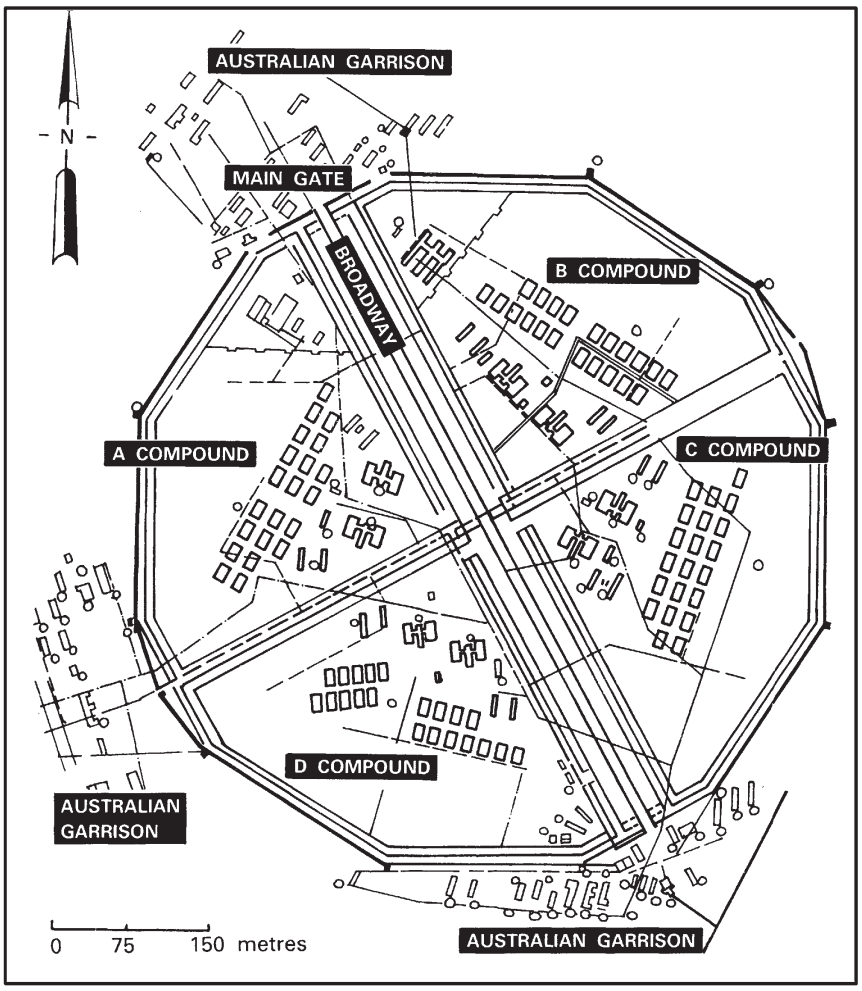
Initially the various camps constructed in Australia — at Graythorne, Queensland; Hay and Liverpool in New South Wales; Loveday in South Australia, and Tatura, Murchison and Myrtleford in Victoria — were used to intern Italian, German and Japanese civilians. Later, captured servicemen boosted the numbers. Camp No. 12 was built at Cowra, west of Sydney, in 1941. The picture *top* of the Japanese B Compound was taken on July 1, 1944 — just a month before the break out. *Above:* Another of our Australian readers, Darrel Cunnington, explores the remains of the camp, only the brick foundations remain.

atmosphere. The Italians were quite prepared to sit out the war working on the nearby farms and it was felt that only a few automatic weapons and rifles would be necessary to keep law and order. However, with the arrival of the first Japanese prisoners of war in 1942 things began to change. The first Japanese to arrive were mainly semi-starved and wounded prisoners of war from the New Guinea campaign who, though potentially dangerous, were quite weak from lack of food and the rigours of the jungle. However, as time went on and more prisoners arrived and the weak began to get stronger, it was decided that greater care of the Japanese would be needed with regard to their potential danger than was necessary over the Italians.

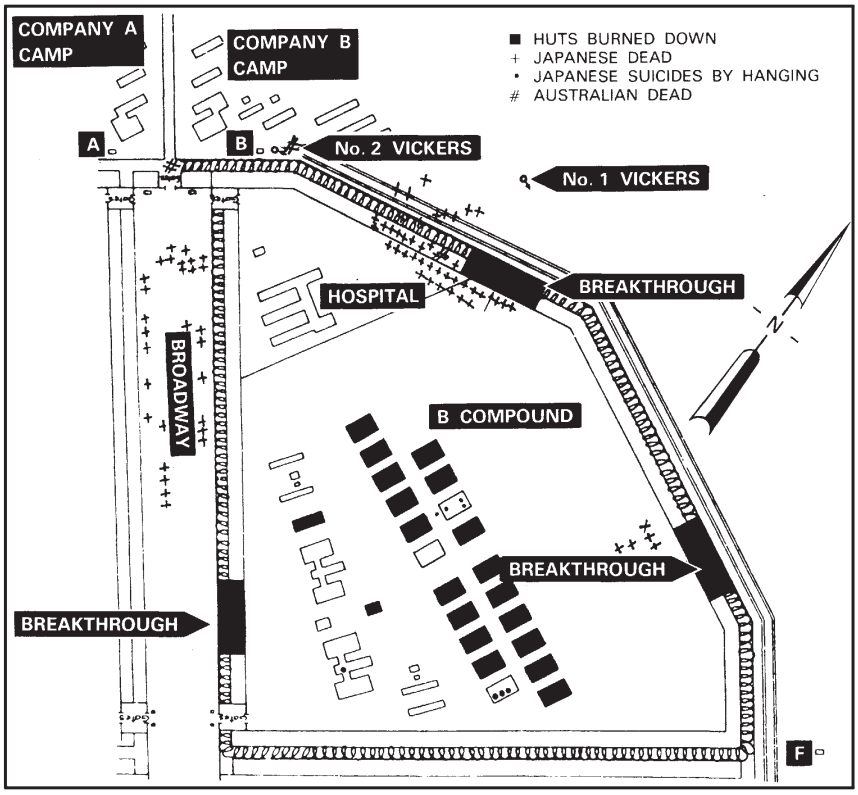
All the Japanese in Cowra prison were recorded under false names. The reason for this was that Japanese soldiers felt great dishonour to find themselves captured during wartime, which not only brought disgrace to themselves but upon their entire family. The greatest accolade that could ever honour a Japanese soldier was to be killed in battle. But now that they were prisoners-of-war they knew that none of them could ever return to Japan and that they must die in Australia. The Australian authorities gave the prisoners an opportunity to write home to Japan — a concession granted in all PoW camps — but every single Japanese soldier, airman and sailor refused to do so.

With the increase in the number of Japanese in the camp (there were 1,104 Japanese non-commissioned officers and other ranks at the time of the break-out), the Australian authorities felt it prudent that they should increase the amount of fire-power available to the guards. A number of Vickers, Owen and Bren guns were brought in and set up in various positions around the perimeter fence that were felt the most vulnerable. The Japanese, who were in compound B, worked on vegetable gardens and other tasks around their huts and continued to ask for more tools. They spent a great deal of time in physical fitness playing baseball, wrestling and other activities to get themselves into the peak of physical condition.

Roughly circular in shape, Cowra was divided like pieces of a cake into four separate compounds: A, B, C and D with the quarters for the Australian 22nd Garrison Battalion spread around the perimeter. Italians were confined in Compounds A and C, Japanese in B with their officers, Formosans and Koreans in D.



The morning of Saturday, August 5, 1944. Beyond the neatly tended vegetable plot lies the remains of burned out huts in B Compound from which the mass escape attempt took place. (Australian War Memorial)



On May 30, 1944 Captain Lord Kane, the Intelligence Officer, received a report from a Korean prisoner held in the Korean and Formosan compound that there was trouble brewing in Compound B for the Japanese. On June 3, after interrogation, the Korean informed the Australians that there was a plot being hatched in Compound B for a mass escape. As there was a recruit training centre approximately two miles from the prisoner-of-war camp, an arrangement was made by the Commandant, Lieutenant Colonel Montague A. Brown, with the training centre for a series of alarms and flares to be set off should any mass escape be attempted. This was all arranged by June 8.

On Friday, August 4, the Commandant of B Camp, Major Robert Ramsay, summoned the camp leader, Sergeant-Major Akira Kanazawa, the assistant camp leader, Sergeant Masao Kojima, and the former camp leader, Sergeant-Pilot Tadao Minami, to his office. He informed them that on Monday, August 7, all prisoners-of-war under the rank of Lance Corporal would be

John Williams' comparison looks out over the same spot today, with only the odd concrete foundations remaining amid the peaceful rolling countryside.

The prisoners used blankets to climb the barbed wire perimeter, in what can only be described as a suicidal attempt to retrieve their honour after having been captured alive, rather than a serious effort of escaping back to Japan. Another picture taken on August 5 for the Court of Inquiry with dead lying beside the wire. (Australian War Memorial)

moving to a new prison camp in Hay. This three-day warning was in accordance with the Geneva Convention rules. When the camp leaders asked why they were not allowed to go with all the privates, one of the camp leaders protested: 'Very bad business. Why can't we all go?' They were informed that the decision had been taken at a higher level. When the camp leaders returned they informed the rest of the inmates of the decision to move all the other ranks to the new camp. The moment of confrontation had arrived. This was the moment the Japanese had been waiting for. Now there was a reason for an escape and, if necessary, for all of them to die right there in Cowra.

At 1.30 a.m. on the morning of August 5 a Japanese prisoner climbed over the inner gate of Camp B and moved towards the outer gate where there were three sentries on duty. The guard, suspicious of what was going on, rang the company guard room. Lieutenant Thomas Aisbett decided to investigate. He checked the outer perimeter and found all guards on alert. The Japanese prisoner was trying to convey some sort of message to Lieutenant Aisbett but, unable to speak English, no clear communication was understood. Twenty minutes later a bugle call pierced the night air inside Camp B. As the notes died away eleven hundred prisoners came pouring out of the huts and charged towards the perimeter fence. Brandishing an array of weapons ranging from knives and forks, clubs, baseball bats and other home-made instruments, they charged towards the perimeter fence. Lieutenant Aisbett and his three men stood absolutely no chance of stopping this onslaught so they ran towards the southern end of Broadway and the big double gates. They reached them just in time, opened the gates, and closed them behind them. Major Eric Lees, D Camp Commandant, then ordered his men to open fire. By this time several huts were on fire, the flames silhouetting the seething mass of prisoners as they charged the wire. At the subsequent Court of Inquiry he stated that: 'We closed the gates and I ordered my guards to turn out and line the fence and open fire on the mob in the Broadway. There was a lot of rifle, Tommy and Bren gun fire from the tower. There were five shot absolutely on the threshold of the two gates. A portion of the mob broke open the two gates into to the officers' compound. I ordered the tower to fire on anyone they could see in the officers' compound, but to avoid hitting the buildings. With the exception of isolated cases no one put their head out after that. There were a number shot around about the officers' gates and some in the officers' compound.'

The Japanese, blocked by the double gates, tried furiously to batter them down. Elsewhere in the camp there were heavier sounds of machine gun fire. Unable to get through the gate, the Japanese decided to move back along the Broadway and attempt to force their way into the Korean compound. However, the Koreans showed no enthusiasm for the escape attempt so the Japanese gave up that idea and went back to try and break open the gates into the officers' compound. The wire gave out under the pressure of the weight of bodies against it and the mob poured through into the officers' quarters. The next day it was found that during the mêlée one of the Japanese officers had been shot and another one had been wounded. To add to the confusion a stray bullet had severed the camp's lighting system and the only lights were now coming from the blazing huts in the middle of the compound. The prisoners in the Broadway then split into two groups. One continued its attack on the south gate while the other group headed to the northern end, which was guarded by A and B companies.

Major Ramsay had been asleep at the time but woke and fired off three Very lights which was the alarm signal arranged between the prisoner-of-war camp and the A.I.F. training centre that there was an escape under way. On the north-west perimeter a group of Japanese prisoners, approximately 200 in number, made a determined bid to get through the wire using blankets and eventually climbed over and through the fence. At this moment the Vickers gun manned by Privates Ben Hardy and Ralph Jones opened fire. The gun position was eventually overwhelmed by the Japanese and both Privates Hardy and Jones were killed, both men being subsequently awarded a posthumous George Cross. Their citations read:

'Private Benjamin Gower Hardy [Private Ralph Jones] was on duty with another soldier as the crew of a Vickers machine gun at the No. 12 Prisoner of War Camp, Cowra, guarding the compound in which were

Other Japanese were more deliberate in their desire for atonement. *Left:* **This prisoner, found outside the perimeter had cut his own throat.** *Right:* **Sergeant Major Masao Kojima, one of the ringleaders, hanged himself in the B Compound kitchen.**

interned over 1,000 Japanese prisoners of war. On the night of 4th-5th August, 1944, the prisoners staged a mass outbreak, stormed over the perimeter, and bore down on the machine gun crew. Private Hardy and his companion stood their ground and continued to work the gun until they were killed, displaying outstanding gallantry and devotion to duty against an overwhelming onslaught. Private Hardy [Private Jones] met his death in the true British spirit of sacrifice for his country.'

London Gazette, September 1, 1950

The Japanese, having killed the two men manning the Vickers, then attempted to turn the gun on the other Australian guards, but Hardy had managed to immobilise it before he was killed and the Japanese were unable to bring it into action. Approximately 30 Australian riflemen then opened up on the Japanese trying to get the Vickers working, killing some and driving off the rest.

As the sun rose on Saturday morning the scene was one of death and destruction, with bodies littering the compounds, hanging on the barbed wire and lying amid the burned-out remains of the huts. Of the 1,104 Japanese who had occupied B Compound, 588 escaped into the Broadway but got no further; 138 did not leave the camp, and 378 escaped over the wire of the outer perimeter. The number of Japanese casualties were 231 killed and 130 wounded. Of the dead, 183 had been shot and 29 were found to have committed suicide by hanging or by stabbing each other to death. Two prisoners had sacrificed themselves in front of a train coming from Blaney to Cowra. Another 12 were killed from unstated causes and 5 from combined gunshot and self-inflicted wounds.

The Australians had lost four men killed, with four being wounded. Those killed at the camp were Private Benjamin Hardy, Private Ralph Jones and Private Charles Shepherd, while Lieutenant Harry Doncaster was killed by an unknown number of Japanese whilst rounding prisoners up in the Cowra district.

Over the next few days the Japanese who had managed to escape into the surrounding countryside were recaptured and returned to the prisoner-of-war camp.

The 231 dead Japanese were buried along with the four Australians at the Cowra Cemetery, which is now maintained by the Commonwealth War Graves Commission. Also buried there in the Japanese section are the other Japanese prisoners-of-war, airmen shot down over Australia, and internees who died during the war.

This incident remains unique in Australian and Japanese history as the greatest escape of all time. However, as one looks out today,

A bloody assortment of improvised weapons recovered including sharpened and pointed cutlery, toothed saws and bread knives, nail-studded wood and lengths of iron pipe. (Australian War Memorial)

With thousands of Australian prisoners in Japanese hands, the Australian Government was most anxious that news of the escape which had resulted in over 200 dead and many more wounded should not reach Japan before the full facts were known. An immediate Court of Inquiry was convened which assembled at Cowra on the Monday morning before the dead had been buried. After inspecting the carnage in and around Compound B, that evening members of the Inquiry watched as the first bodies were buried in Cowra War Cemetery — in long mass graves which had been bulldozed in the hard winter ground. *Above:* **Some 50 Australian soldiers, assisted by Italian PoWs, clear the burial area.**

The Japanese corner of the cemetery today — Judy Cunnington inspects the two memorials, one erected in 1978 by the Japanese Cowra Association.

The Court met each day in the camp's YMCA recreation hut and interviewed a total of 61 witnesses before it returned to Sydney on August 14 to consider its findings. These were relayed to the Japanese Government a week later via Switzerland. By this time all the 334 prisoners who had managed to escape had been rounded up, including 25 found dead. *Above:* **The Australians had lost four men (with another four wounded). Privates Jones, Hardy and Shepherd and Lieutenant Doncaster were laid to rest in Plot D of Cowra War Cemetery — the author's daughter standing in for the relatives of four decades ago.**

over 40 years later, on the spot where the camp used to be among the gently sloping hills of Cowra, all that is visible are the brick foundations of the huts and the cows grazing, and it is difficult to imagine what it must have been like that day when so many lives were lost in what can only be called a senseless, indeed deliberately suicidal, attempt to restore honour to those Japanese who felt that the shame of defeat was more important than life itself.

Private Ralph Jones *(left)* **and Private Ben Hardy** *(right)* **were killed when their Vickers (No. 2 on the plan on page 39) was engulfed by waves of fanatical Japanese. Once it had been captured, the prisoners attempted to turn the gun round but it is believed that Hardy was in the act of rendering the gun inoperable when he was clubbed to death. Both soldiers were awarded the George Cross after the war. Of the other two casualties, Private Charles Shepherd received fatal stab wounds as he emerged from B Company guardroom, and Lieutenant Harry Doncaster was found some distance from the camp. At the Inquest on the dead held in December, the Coroner stated that Lieutenant Doncaster's death was very much regretted as 'it appears that he was sent out to assist in capturing escaped prisoners of war, and that he was unarmed and had no weapon of defence; that his death was a tragedy and should never have occurred as at that time the prisoners were desperate men.'**

ANTWERP 'CITY OF SUDDEN DEATH'

BY ACHIEL RELY

The first V2 to fall on greater Antwerp exploded on October 7, 1944 in the municipality of Brasschaat, without claiming any victims. The first V1 is reported as having fallen on October 11 in the municipality of 's Gravenwezel, which according to my recollections is not correct. I remember being on a street at Merksem, one of the larger Antwerp suburbs. It may have been late August or early September, the city was still occupied by the Germans, when a friend and I heard it — that strange noise in the sky which later became known as the characteristic sound of the pulsejet engine of the V1. All of a sudden an aircraft came across on fire, at least we thought it was an aircraft in trouble, flying from west to east in the direction of Schoten. Through an open space we spotted whatever it was, looking like a flying stovepipe. When the noise and flame ceased simultaneously, the peculiar object stopped flying and dived to earth. We both jumped on our bicycles and quite easily discovered where it had come down — in the garden of a villa in a hamlet by the name of Koningshof at Schoten. We were lads of nearly 14, both our birthdays being in October. This story is treated in some publications as rumour, but we know it really happened. I wonder if the flying bomb had any explosives on board, for I remember there was not much damage.

The massive bang that could be heard across Antwerp at about a quarter to ten on the morning of Friday, October 13, surpassed even the noise of the explosion when the Germans had demolished the tidal pontoon of the Scheldt ferry in early September. Later during the day, the news spread of several buildings on the corner of Schilderstraat and Karel Rogierstraat having collapsed like a pack of cards and of many people having been crushed under mounds of rubble. People imagined all sorts of causes for the explosion: the real one was a V2 launched from the Eifel. The appropriate services began rescue and clearance operations and soon it became known that 32 dead lay buried in the ruins and that 45 people had been injured. Many famous paintings in the nearby Museum of Fine Arts had been damaged by flying glass and lumps of falling plaster.

A second explosion occurred at a quarter past four in the afternoon. It seemed as if a bomb had exploded at the municipal slaughterhouse; in fact, it was a V1. It was a day of meat distribution and a great many butchers were present. The casualty figures came to 14 dead and 15 injured. People made their way to the scene of the disaster for a closer look. Anxiety among the population increased, but there was no sign of panic. Who ever would have thought that after more than four years of occupation, V-warfare would be turned loose on Antwerp as it had been on London. No one could tell what had caused either disaster and people were assured that the effects of a flying bomb were much worse. In the following day's newspapers there was nothing conclusive, except that the Belgian people were warned of the danger of flying bombs. If they saw or heard one, they were advised to throw themselves to the ground, keep their mouths open (to reduce the pressure effects of blast) and to remain as far away from glass as possible. The critical moment was when the characteristic noise of the engine stopped, which meant that the bomb was about to dive earthwards.

The following day, Saturday, passed quietly, but on Sunday the 15th a flying bomb hit the quayside at the Willemsdock and twelve injured ended up in hospital. More incidents occurred on the 16th, 17th and 18th, though without causing severe casualties. The next bad one happened on Thursday the 19th, when a flying bomb impacted in the Kroonstraat at Borgerhout, destroying 25 houses, killing 44 people and injuring 100. By now, it was obvious that the Germans were bombarding Antwerp with their secret V-weapons.

Hitler and the German High Command realised full well the crucial significance of the port to the Allies, who were only finally able to make use of its vast facilities towards the end of November, following a massive minesweeping operation in the Scheldt estuary after the last of the German forces on the north bank of the river were cleared from the Walcheren peninsula *(see After the Battle No. 36)*. Antwerp, therefore, was to bear with London the brunt of the V-weapons; in fact more flying bombs and rockets were to land on the Belgian port than on the British capital. In accordance too with Hitler's plans mooted in September, the port was to become the objective for the Ardennes offensive which erupted in mid-December, and during the offensive the largest scale of V2 attack in a 24-hour period was to take place against Antwerp: 26 rockets on both December 23 and 26.

The flying bombs aimed at Antwerp were coming from launching sites in the vicinity of Cologne and the Trier/Koblenz area of the Eifel operated by the Luftwaffe 'anti-aircraft' unit Flakregiment 155 (W) commanded by Oberst Max Wachtel. Since opening the flying bomb campaign against England, now being carried out by air-launchings from Heinkels, the regiment had found itself quartered in Holland and Germany after its withdrawal from France in the face of the Allied advance once the American and British forces thrust out of Normandy. Projected launching sites in Belgium had come

Lange Nieuwstraat struck on November 27. Casualties 18 killed, 64 injured.

to nothing in August/September as the Allied armour pushed rapidly forward from the Seine, and many units were stationed briefly at that time at Camp Maria ter Heide near Antwerp, before moving on again to Deventer in Holland. At Waterloo, where the V-weapons headquarters staff of LXV. Armee Korps and its commander, Generalleutnant Erich Heinemann, had withdrawn from west of Paris, they had escaped in the nick of time as British troops entered Brussels. Oberst Wachtel was ordered to step up the bombardment of Antwerp in early November, and meanwhile launching sites were being prepared in central Holland to begin an attack on Belgian targets from close quarters.

The rocket-launching units were allotted between Gruppe Nord and Sud. In mid-October, two of Gruppe Nord's batteries, the 1st and 3rd of 485 (Mobile) Artillery Detachment and the newly-arrived SS Mortar Battery 500 were stationed in north-west Germany, near Burgsteinfurt, north of Munster, from where they fired rockets at Antwerp; 485 Detachment's 2nd Battery was at The Hague continuing the campaign directed at London from there, and Battery 444 was in Friesland firing at East Anglian targets and at Antwerp, though about to be moved to The Hague. The 2nd and 3rd Batteries of Gruppe Sud's 836 (Mobile) Artillery Detachment bombarded Antwerp from near Merzig in the Saar while the 1st operated about twenty miles to the north-east from near Hermeskiel.

November saw the consolidation of all three of 485 Detachment's batteries in the Burgsteinfurt area for a concerted effort against the port; the 1st Battery transferring to The Hague in December, being joined there in January by the 3rd. SS Mortar Battery 500 had moved westwards into Holland to the Zwolle/Enschede area. In Gruppe Sud, the 2nd and 3rd Batteries of 836 Detachment had moved north from Merzig towards the end of October to join the 1st near Hermeskiel; the Detachment redeploying northwards in November/December to the Hachenburg area in the Westerwald.

The speed and extent of Allied gains beyond the Seine at the end of August had dispelled hopes of using prepared sites north of the Somme, and then put paid not only to the idea of mounting operations from the Ghent/Tournais area but, within twenty-four hours, to the alternative area further east of Antwerp/Mechelen. Instead the units of Gruppe Nord (1st and 2nd Batteries of 485 Detachment) had moved out from the Cleve area north-west of the Ruhr to between The Hague and Wassenaar in Holland, and those of Gruppe Sud (2nd and 3rd Batteries of 836 and, at that time, Battery 444) from Baumholder in the Rhineland first to west of Venlo but then southwards to the Euskirchen area south-west of Bonn — Battery 444 establishing operations in the Ardennes and opening the attack on Continental targets with a rocket fired at Paris on September 8, while later that day Gruppe Nord fired the first two rockets of the attack on London from Holland.

Further disruption affecting Gruppe Nord had been caused in mid-September by Montgomery's airborne operation and armoured thrust to gain the lower Rhine at Arnhem: hence the 485 Detachment's withdrawal eastwards from The Hague/Wassenaar area to Burgsteinfurt to avoid the risk of being cut off, its 2nd Battery having returned at the beginning of October once it had become apparent that the Arnhem operation had been checked, and the redeployment northwards (via Zwolle) of Battery 444 to Friesland from Walcheren, to which it had been transferred only a week before from Gruppe Sud to augment the attack on London. Meanwhile, 485 Detachment's two batteries brought Liège, Leuven, Tournai, Maastricht and Hasselt under fire; these and other towns in Belgium and Northern France receiving the attention of the two batteries of 836.

The Arnhem operation had given London some respite from the V2, as Gruppe Nord's withdrawal placed it out of range, with the East Anglian cities of Norwich and Ipswich having become targets for Battery 444 from Friesland instead, but the rocket offensive against the British capital had been resumed by 485 Detachment's 2nd Battery for just over a week when on October 12 Hitler ordered that rocket fire was to be concentrated solely on London and Antwerp.

Directing rocket operations was SS-Gruppenführer Hans Kammler, an ambitious and energetic 'rising star' of Himmler's who in effect had displaced the LXV. Armee Korps hierarchy and who was to win control of the rocket offensive for the SS (his position strengthened in the wake of the attempt on Hitler's life) and ultimately to gain control of V1 operations and to be made responsible for the entire missile programme.

On October 28 a flying bomb brought death to 71 people in the Bontemantelstraat, one of the highly populated quarters of Antwerp. There were 78 injured and 40 homes were wrecked. Six hits were recorded on the 29th, three on the 30th, two on the 31st. . . . The average was to mount to 35 impacts per day for the Province, an area encompassing the counties of Antwerp, Mechelen and Turnhout, over six months. On November 16 the orphanage in the Durletstraat was hit. The building had been partly converted as an emergency hospital. One of the doctors and three Red Cross nurses died while surgery on a patient was in progress, and several of the other 32 deaths were those of orphans playing in an inner courtyard when buried by a collapsing wall. Forty-one were killed in the Van Roeistraat at Merksem, 19 in the Houtemstraat at Berchem, 5 at the Kielsevest, 28 in the Gasstraat, 13 in the Van Duyststraat at Deurne, 36 in the Breydelstraat, 25 in the Van Trierstraat, 22 in the Irislei at Merksem, 42 at the Muggenberglei — an endless list of misery and sorrow.

On November 17, at 11.30 a.m., a V2 struck the St Joanna Institute at the Ferdinand Coosemansstraat. Thirty-two nuns died

under the rubble. One of the worst incidents to occur was on November 27. A major road junction near the Central Station, Teniers Square, was hit by a V2. Four Military Policemen were regulating traffic for a convoy just passing through. A major water main burst, gushing all over the place like a gigantic geyser and causing a great pool to form within a few minutes; floating in it were dismembered parts of bodies, shreds of clothing and women's handbags. Several of the convoy's trucks had caught fire. Drivers lay on the ground burning. The windows of four nearby trams shattered, injuring all the passengers. One of the MP's was never found and the body of another discovered on the roof of a building some 200 feet away. The dead totalled 157, of whom 29 were Allied personnel. Some 248 people were injured.

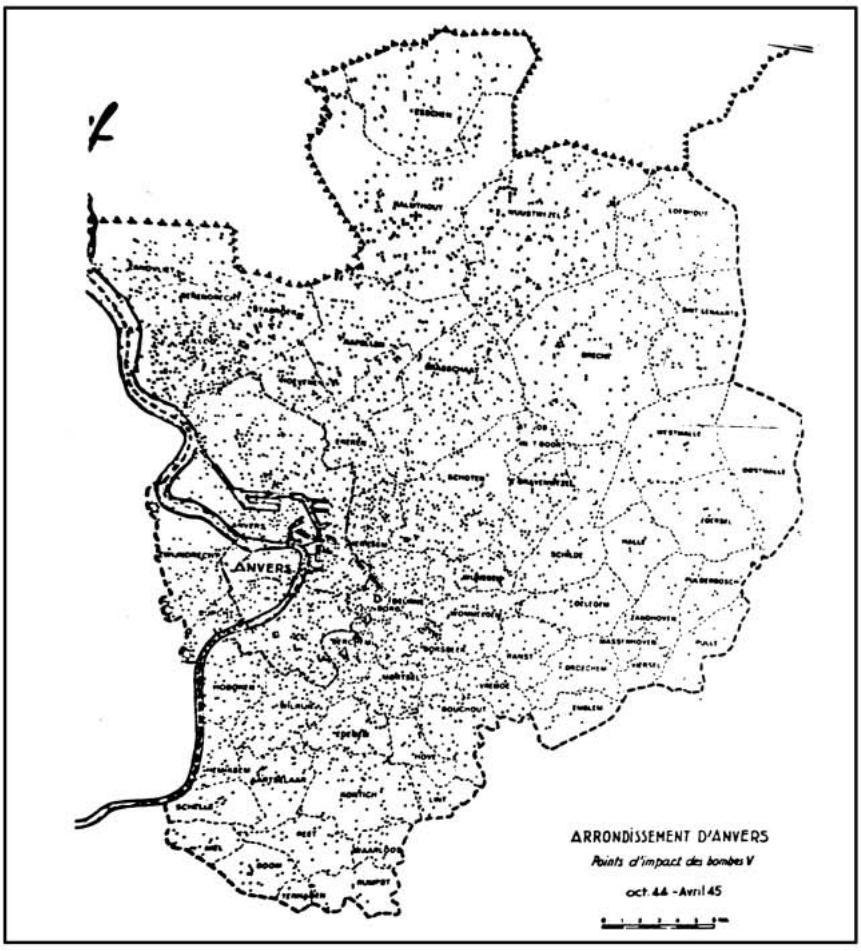
December 16 (the first day of the Ardennes offensive, in fact, though none were aware of it as such at the time) brought the most ghastly disaster of them all. A chock-full cinema, The Rex on the Avenue De Keyser, received a direct hit from a rocket. It was in the middle of the afternoon and nearly all 1,200 seats were occupied. The programme featured *Buffalo Bill*, and all eyes were on the daring deeds of the hero, not on the clock next to the screen which stopped at 3.20 p.m. when a flash of light shot through the dimmed interior. The balcony and ceiling came crashing down while the screen was falling forward. The destruction was almost total. People were sitting in their seats, apparently unharmed, but they were dead. It took a week to clear the rubble and calculate the extent of the casualties.

The rocket that hit the cinema was fired from one of the new sites in Holland, near Enschede. At a stroke, 567 people were destined to die in the disaster, of whom 296 were Allied servicemen, and 291 people were severely injured. Hundreds of families were left to mourn. An increasing number of inhabitants moved out but many had to stay to go about their daily duties. Many wives defied danger side by side with their husbands.

With the onset of the Ardennes offensive in mid-December, the rocket offensive against London dwindled for a week or two. Rockets were now falling in great numbers on Antwerp, coming mostly from the Zwolle/Enschede area. The number of flying bombs launched against Antwerp had also increased. In addition to the V1 launching sites in the Eifel, they now came from a dozen or more sites in central Holland, in the triangle Zwolle, Enschede, Zutphen. During the last ten days of December 1,488 flying bombs were fired at Antwerp and Liège. For Kammler and Wachtel, carrying out Hitler's explicit orders, their strategic objective was the port but in practice the rocket and flying bomb offensive became a terror attack in which civilians suffered most. Neither weapon was sufficiently precise for accurate bombing and struck at random.

On December 21 about 80 flying bombs were fired towards Antwerp, of which 13 arrived over the target. One fell on the Adolf Stappaerts hospital, killing 16 people. The following day another V1 crashed at almost the same place, killing three workers clearing the rubble. It was noticeable that newspapers mentioned very little regarding the disasters. Later the reason emerged: there was a clamp-down on information by the Allies to prevent German agents from being given details on a plate as to where the V-weapons were landing.

Meanwhile, the Antwerp authorities were obliged to invoke the help of other cities — Brussels sent 50 men — but the difficulties seemed insurmountable. Between December 10 and 16 some 761 civilians were killed — 571 of them plus 378 injured during the four days December 13-16. The days became



It is not generally appreciated that the weight of the V-weapon attacks on the Province of Antwerp greatly exceeded those on Greater London. In the V1 campaign (June 1944-March 1945) 2,419 flying bombs reached the London Civil Defence Region (4,248 to Antwerp), and 517 V2s (less than a third of those on the Antwerp region).

TOTAL OF V-WEAPONS WHICH FELL IN THE PROVINCE OF ANTWERP

(Average hits per square mile: Antwerp Area 7 — County 4)

	V1	V2	TOTAL
October	131	160	291
November	481	377	858
December	632	417	1,049
January	761	367	1,128
February	1,370	256	1,626
March	873	135	1,008
	4,248	1,712	5,960

CASUALTIES

Area	Casualties Allied Forces		Damaged Property			Civilian Casualties	
	Fatal	Wounded	Destroyed	Heavy Damage	Slight Damage	Fatal	Wounded
Oorderen	–	1	6	252	497	12	69
West Bank of River	–	4	23	147	279	16	61
8 Suburbs	85	206	976	12,212	26,123	997	1,364
Antwerp City	465	557	651	6,381	18,474	1,801	2,936
Port Region	53	174	19	370	1,573	131	380
Greater Antwerp	603	942	1,675	19,362	46,946	2,957	4,810
50 communities of the County	111	227	1,443	8,254	20,713	558	1,014
Greater Antwerp and County	714	1,169	3,118	27,616	67,659	3,515	5,824
40 communities of the County of Mechelen	5	9	495	1,736	9,663	237	250
West Bank (outside County)	5	6	–	–	–	–	–
All other regions	7	8	–	–	–	–	–
Total	731	1,192	3,613	29,352	77,322	3,752	6,074

Whereas London's worst incident was at New Cross on November 25 when 160 were killed, Terniers Square suffered two massive incidents three weeks apart with a total death toll of 724. On November 27 a V2 exploded just as a military convoy was crossing the busy junction, killing 157 including 29 servicemen. Then on December 16 the Rex Cinema (in the background of this picture) was hit when almost packed to capacity: 567 died of whom 296 were Allied personnel. Horrific pictures such as these were never released in Britain and, even if they were taken, none survive today. No words can possibly describe the scene: let the pictures speak for themselves.

shorter and shorter. The desolation was heart-rending. Many houses were almost uninhabitable. Christmas was coming, and with it the very depths of winter. The wind was howling through the ravaged houses and there was no coal. Between the start of the V-weapon ordeal and the end of 1944, Greater Antwerp had registered 590 direct hits which had flattened 884 homes and caused about 2,500 others to be demolished. 5,636 buildings were badly damaged and 23,084 slightly. The casualty figures stood at 1,736 dead or missing and 4,500 injured. No block of houses was without heaps of rubble and broken glass.

1945 got off to a wretched start. Shortly after midnight on New Year's Eve, before the sound of the ship's hooters had died away, a flying bomb struck. It was 12.12 a.m. when it exploded, completely destroying 5 houses at Borgerhout, killing 37 people and injuring 22, while they were seeing the New Year in. Two more flying bombs fell on New Year's day. Then January 2 surpassed all previous days with 20 hits. It began to snow and rescue work was made all the more difficult. Since The Rex disaster all cinemas and theatres had been closed down: the centre of Antwerp was now cold and forlorn. In the midst of the death and destruction, very often the rescue services had to deal with 50 or more corpses a day, but with the help of the Allied Forces, and doctors and nurses of the Red and the Flemish Cross, Antwerp stood the strain. Disregarding the dangers, the medical teams rushed to the stricken scenes of the explosions. Little imagination is required to appreciate the difficulties with which the firemen and ARP workers had to cope — walls, and sometimes entire buildings, might suddenly collapse hours afterwards — but they toiled on. Temporary accommodation for the bombed-out was provided by the municipal authorities. Beds and food were donated by a section of the National Welfare Committee. Municipal authorities set up services to assess the state of the damage and provide expert advice.

In the port itself a constant stream of ships bringing in supplies for the Allied forces was handled and unloaded by thousands of dockers. The bombardment never seriously affected its working. One ship was sunk and sixteen damaged. Kruisschans lock was damaged, causing only minor delays for ships entering and leaving. A dry dock was put out of commission for three weeks. The Hoboken petrol installations were hit twice — first on January 19, when three storage tanks burnt for 48 hours and a trainload of petrol was destroyed; an incident in which nine people were killed and twenty injured. On the second occasion, on February 14, the fires were quickly extinguished and there were thirteen dead and ten injured. Several marshalling yards were hit more than once, but repairs never took long. The main effect operationally was a restriction placed on ammunition cargoes, clearances through Antwerp being reduced to a minimum in favour of Ostend, Ghent and other ports.

The number of flying bomb incidents in the Province of Antwerp had increased during January and almost doubled to its highest point of 1,370 in February, with 873 falling in March, while those caused by rockets lessened. As the V-weapon launchings came to an end and units were compelled to withdraw, March 27 saw the last of the rockets, which landed in Mortsel, killing

27 people and injuring 62. The last of the flying bombs, on March 30, cut its motor over Ranst but plunged down without causing any casualties.

A noteworthy event was the crashing of a V1 into Antwerp's tower block — the 'Boerentoren'. This 24-storey building was hit by a flying bomb between the fourth and fifth floor. A ton of explosives failed to budge the work of architect Jan Van Hoenacker. Look-outs installed in an observation post on top of the building never

noticed that it had been hit. A nearby business house collapsed an hour after the impact.

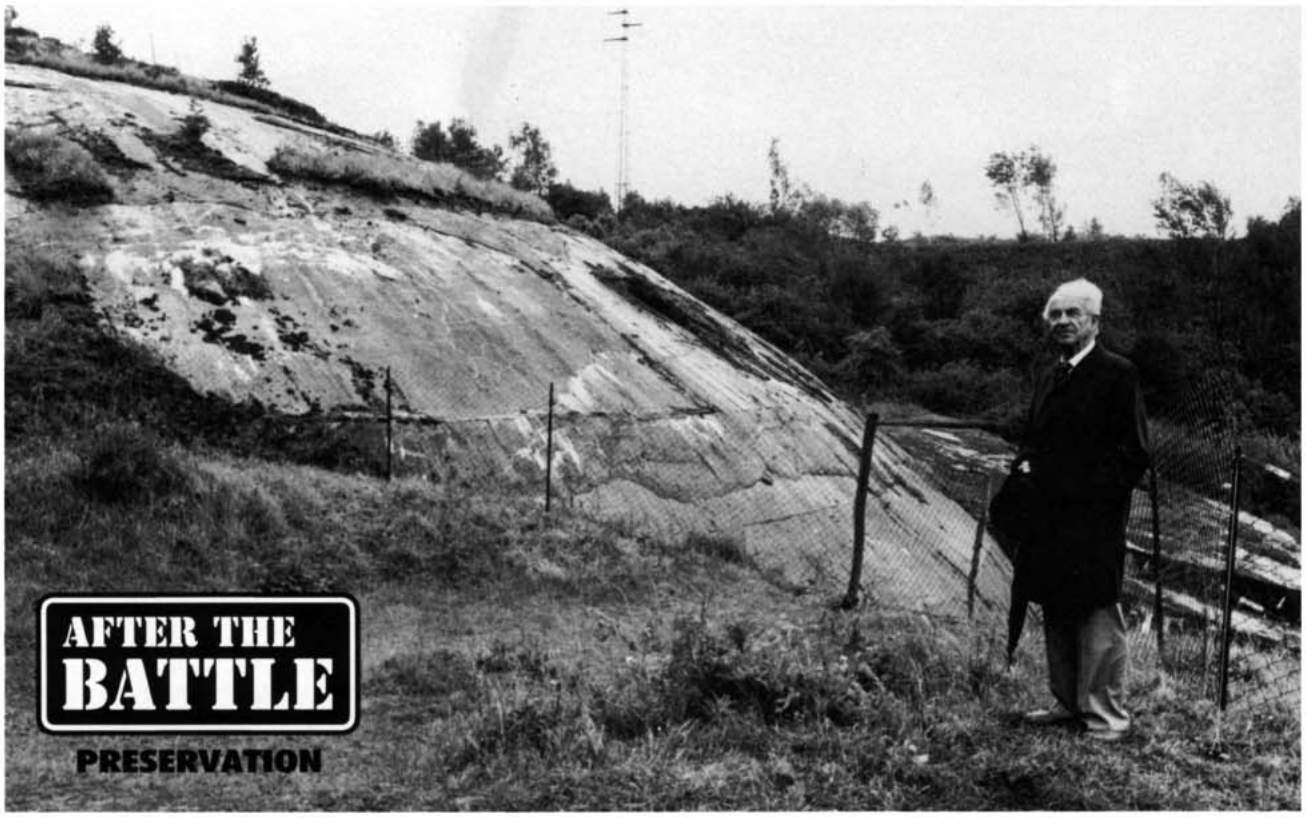
Some of the flying bombs were shot down by fighter aircraft — only the Hawker Tempest V possessing the speed to overhaul the V1, and then only with the engine flat out, resulting in wear and tear problems — and many efforts were made to obtain marginal improvements in the speeds of the best British planes. A number of tactics were open to fighter pilots to destroy them. Experienced pilots had discovered that a straight dive across the course of a flying bomb created a violent whirlwind, toppling the gyroscopes, which could bring one down. Another trick was to overtake one and tip its wing, capsizing it. Lack of sufficient airspace, because of the relatively short distance the flying bombs had to cover, largely precluded the use of such methods however. Also, fighter aircraft were not employed much, to avoid hampering the anti-aircraft batteries; and the city was too close to the front to designate a zone where fighters could intervene. Where they were deployed intensively was in attacking launching sites. (Though the boot was on the other foot, so to speak, when on October 25 a V2 came down on Deurne/Antwerp airfield, destroying Wing Commander Baldwin's personal Typhoon, killing five airmen and badly wounding six more.) Bombing raids on the rocket sites in The Hague could only be made at the risk of high casualties among the Dutch population because of the way in which Kammler deliberately placed the launching units in built-up areas.

On November 10 American Brigadier General Clare H. Armstrong had arrived by air from Paris as the commander of the Anti Flying Bomb Command Antwerp X. This consisted of American, British and Polish units, totalling 22,000 men. The very day of Armstrong's arrival, an important meeting took place in Antwerp's Century Hotel at which a new defence plan was drawn up for the command's three brigades of anti-aircraft artillery: the 50th (Armstrong), the 56th (Brigadier-General George M. Badger), and the British 80th (Brigadier-General H. W. Deacon). Antwerp X developed into a superb organisation. The observation posts were technical marvels. A total of almost 600 guns were put into action against the flying bombs. Thousands of kilometres of telephone wire was installed to improve communications. Initially, headquarters were installed at Schoten, close to Antwerp, but later removed to the Grand Veneur Hotel at Keerbergen, a country village east of Mechelen.

Montgomery set the gunners a target of bringing down at least half the flying bombs that came over. In November they claimed to have accounted for 62 per cent, in December 52 per cent, in January 1945 64 per cent, and in February 72 per cent. Against the faster-than-sound V2 there was, of course, no defence.

The guns roared constantly — and when there was not enough ammunition it was sent from the United States by air. The wear on the barrels was such that some had to be replaced three times. Together, the American 90mm and British 3.7-inch guns fired about 968,000 rounds, much of the time in the worst possible conditions, in fog and low cloud, which made it virtually impossible to hit anything, and come rain and snow. Thirty-two men were killed and 298 wounded serving with the composite command in the defence of Antwerp. In April, when the danger had receded and units began to be dispersed, Montgomery wrote to Armstrong to congratulate him on the achievements of the anti-aircraft defences, and referred to their 'outstanding success' in having 'kept in full operation the main supply base of both 12 and 21 Army Groups' as having 'profoundly influenced the present battle and made the success of present operations administratively possible.' To the people of Antwerp, after the war Montgomery proclaimed that, had they failed, the Allied armies would not have succeeded: 'You did not fail and so we overcame the enemy.'

During the V-weapons onslaught, over a period of 175 days and nights, the German launching units fired 4,248 V1s and 1,712 V2s at the Antwerp region, of which 106 flying bombs and 107 rockets hit the city. During that period, 3,752 civilians were killed and 6,074 injured in the Province of Antwerp, including 2,957 in Greater Antwerp. Among the Allied forces, 731 were killed and 1,192 injured. Some 3,613 properties were destroyed, 29,352 badly damaged and 77,322 slightly damaged. For the people of Antwerp, who had lived for months in the presence of sudden death, it was hard to believe that the nightmare was really over.

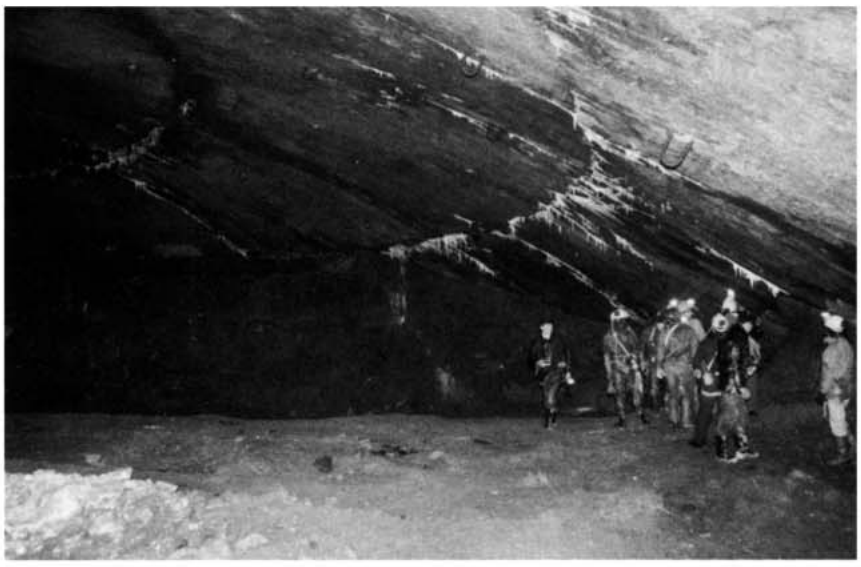


AN ENGINEER RETURNS . . . . . . AND A MUSEUM IS BORN

In the V-weapon campaign of 1944–45, history shows us that the mobile launch vehicle was a much more effective method of firing missiles than a vulnerable fixed site which could be identified by aerial reconnaissance and bombed accordingly. However, in the early years of the war, German policy was to counter the threat of bombing by building massive bomb-proof bunkers in which weapons could be stockpiled and the work of preparing and assembling the weapon for firing could take place in relative safety.

In 1940–41 Hitler had managed to construct many of the Atlantic Wall fortifications, including the cross-Channel gun casemates *(see After the Battle No. 29)* during a period in which the Luftwaffe could, if not always maintain full air superiority, at least make any bombing attack a hazardous operation. When that supremacy was lost to the RAF and USAAF, conventional construction was impossible.

The Organisation Todt, the civil engineering body created under the brilliant engineer



Top: **Ex-Organisation Todt Chief Engineer of OT-Zentrale in Berlin, Werner Flos, made his first return visit to the Pas-de-Calais V2 rocket bunkers in June 1987. This is the 5-metre thick reinforced concrete slab protecting the proposed launch site in a quarry at Wizernes — his own idea to counter enemy bombing. As the slab was laid flat on the ground there was nothing that the Allies could materially destroy. Once the concrete had set, his plan was then to excavate the area beneath it for the rocket store, the work being protected from attack by a bomb-proof roof.** *Above left:* **These pictures, taken by a team from the body investigating the possibility of opening the site to the public, show just how much excavation work had been done beneath the dome before work was abandoned.** *Right:* **At present rock climbing equipment is necessary to reach the top but it is intended to cut a lift shaft to take visitors through the solid rock.**

Flos's idea of the 'Erdschalung' method of construction was born out of the problems encountered at the nearby Watten bunker in the Eperlecques forest which was destroyed when only the lower level had been built. *Left:* **Here the author of *Constructions Speciales*, Roland Hautefeuille, points out one particular aspect of the ruin to Werner Flos. In the background the ruined northern workings.** *Right:* **The building to the south for liquid oxygen production was largely completed.**

Dr-Ing Fritz Todt, initially appointed to build the autobahns, was in 1938 given the task of completing the West Wall. The road programme had largely been achieved by 1940 when the main zone of operations transferred to the Channel coast. Todt's deputy and the Leiter of OT Zentrale in Berlin was Xaver Dorsch, like Todt a former employee of Sager und Wörner in Munich who had left with him to begin the road building project. During one of Todt's visits to the construction sites in the Pas-de-Calais he 'head-hunted' a young engineer working with the OKH planning staff at Audinghen, Werner Flos, asking him if he would join him in Berlin as his Chief Engineer. This Flos quickly accepted and, at a salary of 750 Reichmarks per month, he was appointed to the post on May 1, 1941.

In 1942, Ingineer Flos was assigned to the A4 (as the V2 was initially called) construction project and in August he visited Peenemünde to consult with von Braun and the rocket design staff. Although the weapon had not yet been test fired, development of the launch sites would have to proceed at equal pace if the target date of December 1943 for the bombardment of London was to be met.

A site was chosen between St Omer and Calais in the forest at Eperlecques for a bunker code-named 'Kraftwerk Nordwest' but it was impossible to hide the construction site from the prying eyes of the RAF's Photographic Reconnaissance Unit, especially one so near the coast. It was already known that secret weapons were under development in Germany and any suspicious activity drew attention immediately. In August 1943, with the building 35 per cent complete, a devastating raid by the Eighth Air Force so damaged the workings that the decision was made to abandon the idea of completing the launching bunker and instead just to concentrate on the liquid oxygen 'factory' on the southern side.

In October 1943 another bunker was started in a chalk quarry ten miles to the south near the village of Wizernes, originally intended for the storage of rockets but developed to serve as a launching site as well. However, as Werner Flos recalled in later years, it was impossible to build anything without air superiority so this time he had the idea of using a totally new technique of construction: that of laying down a thick slab of reinforced concrete flat on the ground and then excavating the soil beneath under its protection whereupon it became the roof of the bunker. At Wizernes a massive concrete dome, five metres thick, was set on the cliff at one end of the quarry with overhangs to protect the entrances from which the rockets would emerge to be fired from the quarry floor. Code-name for the bunker was 'Schotterwerke Nordwest'.

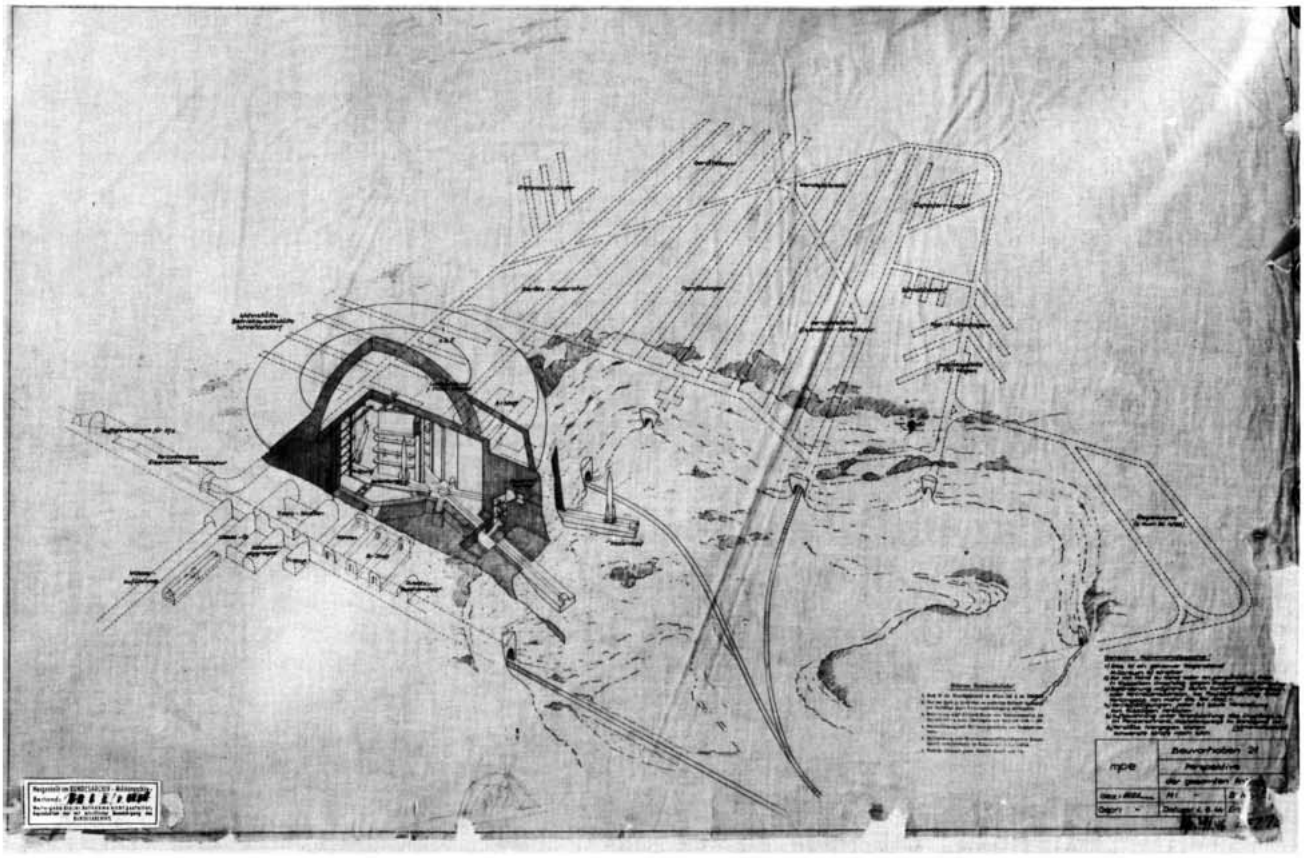
However it, too, drew the attention of the Allied air forces and a series of raids churned up the surrounding area making communication all but impossible. Although the dome itself was only struck by one bomb in some 16 attacks, two raids by Tallboy-carrying Lancasters made further development of the site impossible, and in July 1944 Hitler directed that further work must be abandoned.

At the end of the war, the bunkers and their intended rôles were of intense interest to the Allies, who conducted detailed surveys; yet the lesson of the vulnerability of static missile launch pads, and the ease by which road and rail access to them could be cut, was soon forgotten. Consequently a new breed of rockets, developed by many of the same German engineers now working for the Americans, Russians and French, were initially installed in 'hardened' missile silos in both the East and West, before mobile launchers on land and sea were developed.

Although by the 1970s the sister site at Eperlecques, now in private ownership, had been opened to the public, at Wizernes, as the actual quarry had long been exhausted, the area was left much as it was in 1945.

We visited all the 'heavy' bunker locations in France in 1974–75 during our research for our issue on the V-Weapons *(see After the Battle No. 6)* but it is only since the publication of the masterly treatise on the 'heavy' sites in the Pas-de-Calais and Cotentin Peninsula, *Constructions Speciales* by Roland Hautefeuille in 1985 *(see After the Battle No. 50, page 11)* that a spotlight has been directed at the latent appeal of these

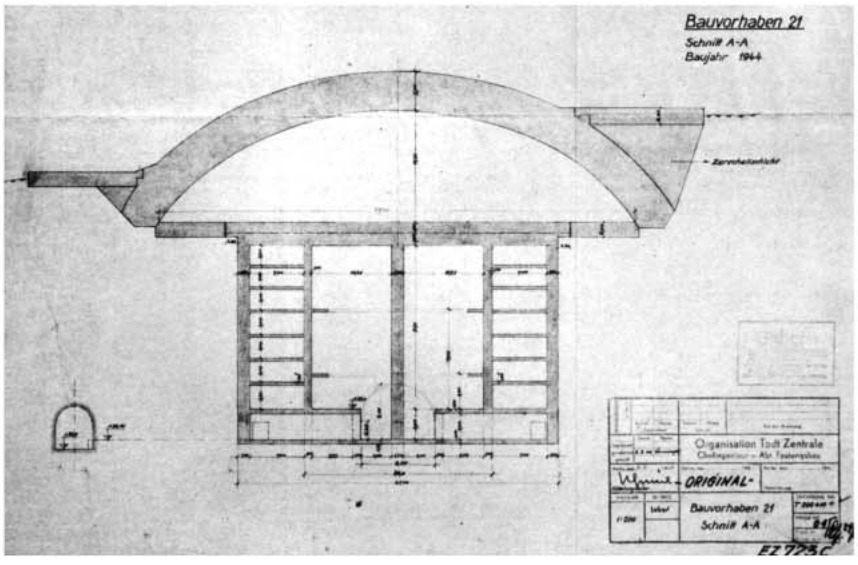
Access right up to the roof, a privilege denied the ordinary visitor to the Watten museum, was kindly provided by the owners, Mr and Mrs Hubert de Megille.



An OT drawing of Wizernes discovered in German archives by Mr Hautefeuille. It makes an interesting comparison to the British reconstruction of the possible use of the bunker reproduced in *After the Battle* issue 6. The quarry location, originally only intended for rocket storage, was chosen by Georg Thom in April 1943. When Watten was destroyed in August, work soon began on what was then intended to be a combined storage/launch complex. (Bundesarchiv)

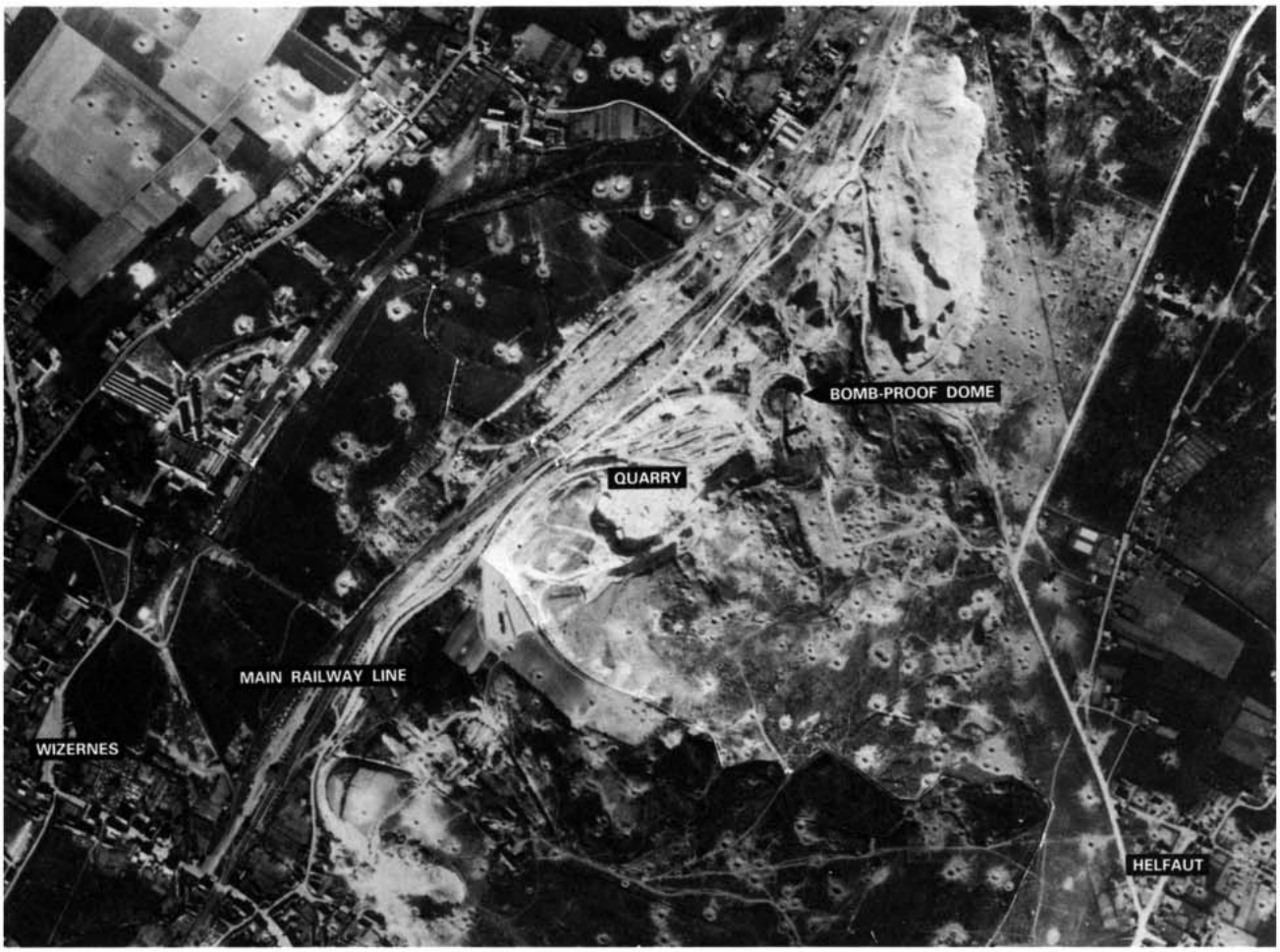
monumental relics of the missile age. With the decentralisation of government in France and the creation of regional authorities responsible for the creation of 'Parcs Naturel', the Espace Naturel Régional in Lille examined the potential of Wizernes as a tourist attraction for the Nord–Pas-de-Calais region. In 1986 10 millon francs were earmarked to develop the site into a Second World War museum having four themes: the Atlantic Wall and Pas-de-Calais guns; the Occupation and Resistance; the Battle of Britain; and the development of the V2.

A special Open Day was arranged for June 20/21, 1987 at which one of the 'celebrities' would be ex-Todt engineer Werner Flos, whom one can regard as the highest-ranking survivor in the organisation, Dr Todt having been killed in a plane crash in February 1942, and Xaver Dorsch having passed away in December 1986. On the British side Professor R. V. Jones, with his special wartime responsibility for scientific intelligence in countering the threat of the V-weapons, was invited as special guest to preside over the inauguration, and your Editor, having



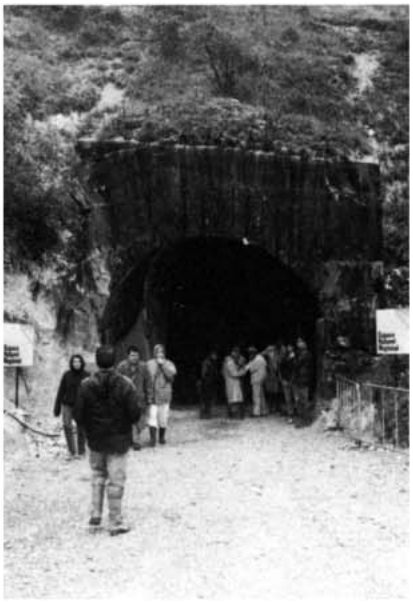
A nice find was this detailed plan of the central octagonal part of the bunker, bearing the stamp of Flos's Berlin office where he led a team of some 300 engineers and draughtsmen.

The Erdschalung technique would no doubt have been successful had it not been for the invention on the British side of the 12,000lb 'Tallboy' bomb, against which few buildings were proof. Here Flos looks at the buried entrance (on the left) where the V2s would have emerged to be fired from the floor of the quarry, the whole mass having been dislodged by a near miss from a Tallboy.



recently worked with him on a chapter on Electronic Warfare for *The Blitz — Then and Now*, was asked to use his best endeavours to persuade the Professor to come. Professor Jones had never previously visited the workings, and he cancelled previous engagements in order to attend, and it was my privilege to escort him from London to France — a journey on which I learned much of his work behind the scenes in MI6.

Another aspect of the building of any construction, be it bomb proof or not, is the vulnerable road and rail net leading to it, the cutting of which would have prevented rockets even reaching the bunker. By April 23, 1944 when this picture was taken by 542 Squadron, the site had undergone only two attacks by the USAAF in which over 600 bombs were dropped. Another 14 raids were to hit Wizernes during the following 15 months. The fact that both the Germans and the Allies referred to the site as being at 'Wizernes' led to a difficult matter of protocol 40-odd years later when it came to the 1987 proposal and inauguration of the bunker as a future museum, for in reality it belongs to the nearby village of Helfaut! The problem was resolved by giving both mayors equal say . . . and putting them on the same line in the official invitation.



Left: **The entrance for the railway which would have taken the rockets into the underground store as we found it in 1974.** *Centre:* **Thirteen years later, enlarged and cleared out it was the focus of attention on the two open days held on June 20 and 21, 1987.** *Right:* **Distinguished visitor invited to preside over the inauguration was Professor R. V. Jones, wartime head of Scientific Intelligence on the Air Staff and Scientific Advisor to MI6 and GCHQ at Bletchley.**

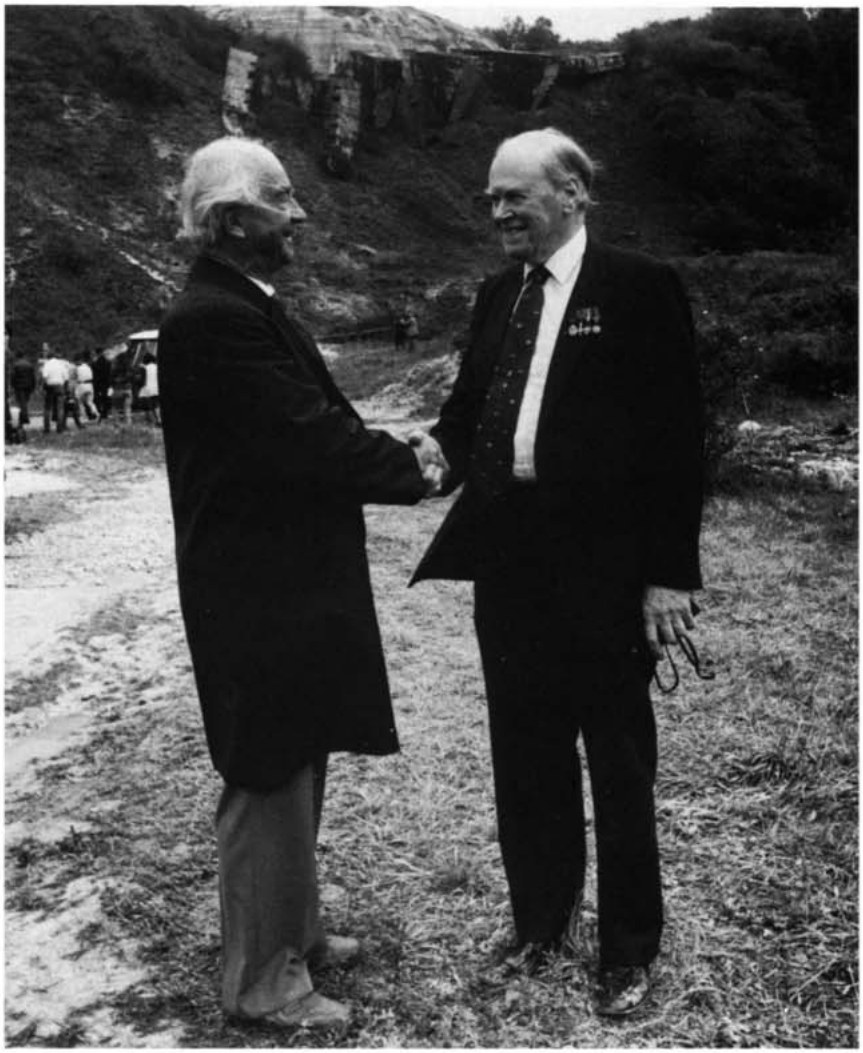
A large crowd on the Saturday (swelling to over 20,000 on the Sunday) gathered to hear Professor Jones explain the significance of Wizernes as the world's first missile silo and its unique place in the history of rocket development.

The meeting of former enemies Werner Flos, the Chief Engineer, and Reginald Jones, the scientist, was an enlightening experience, as was the enthusiasm of the huge crowd which had gathered to meet us at the quarry — rather wet and muddy after days of rain. However, once inside the old railway tunnel we were treated to the fascinating sight of many of the chambers brightly lit, and maps, diagrams and photographs and an excellent audio-visual presentation to explain the intended workings of the installation had it been completed.

In fact the French authorities do intend to complete the construction of one of the lateral tunnels for some 300 metres to provide a circular tour and a lift shaft is to be cut through solid rock to take visitors to the underside of the dome. All this of course will take time so the proposed opening date for the museum is not until 1989.

As Professor Jones said in his inaugural speech, Wizernes is the direct ancestor of the ICBM missile silos of today and its preservation stands as a unique monument to the developments which led directly to the conquest of space.

Werner Flos took a number of photographs of the uncompleted workings.



A meeting of brilliant minds on the very spot where the V2s would have been launched against England.

THOMAS D. WILLIAMS JR
SGT 854 BOMB SQ 491 BOMB GP (H)
PENNSYLVANIA AUG 26 1944